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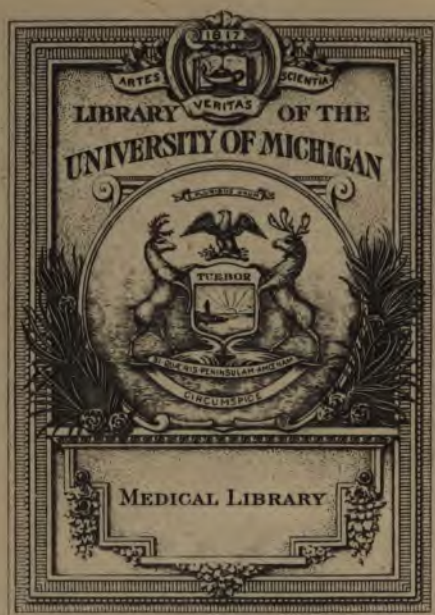
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Vol. XI.

*Homo naturæ minister et interpres tantum facit et intelligit, quantum de naturæ
ordine, re vel mente, observaverit; nec amplius scit aut potest.*

FRANCIS BACON.

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No. I.

Remarks on Uterine Hemorrhage, and the beneficial effects of Mechanical Irritation as a remedy. By SAMUEL ROCKWELL, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE observations which I shall make upon this disorder, will be principally confined to that excessive discharge of blood from the uterine vessels, which is threatening to life, either immediately, or by inducing a dangerous infirmity. This takes place—

- 1st. After delivery in child birth.
- 2d. From abortion in the early periods of pregnancy.
- 3d. In the advanced state of pregnancy,—previous to, or attendant upon labour.
- 4th. In excessive Menstruation.

Three principal indications or intentions of cure, seem to have been regarded by most writers upon uterine hemorrhage. The first, and most important, is to excite contraction. This contraction I understand to be, not so much of the blood-vessels themselves, as of the size and capacity of the womb, whereby the diameters of the vessels are lessened, and their mouths closed by the corrugations of the internal surface of the uterus.

The second intention of cure, is to promote the formation of coagula, by which the mouths of the bleeding vessels are plugged up. It has accordingly been supposed, that remedies

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which will answer both these intentions at the same time, are best adapted to stop the hemorrhage. That this last intention is founded upon erroneous principles, and has been the occasion of much error in practice, I shall attempt to prove. In all cases of hemorrhage, in the external parts of the body, the manner in which coagula operate in suppressing it, is apparent to the senses. This we know to be by such a pressure, as to form a close adhesion to the mouths of the open vessels. Thus in a wound, the divided parts are distended, by the accumulation of the coagulum, till a strong and permanent resistance produces that pressure, by which a close adhesion is formed upon the mouths of the open vessels, and the bleeding stops. So likewise in a bleeding at the nose, the firm resistance of the cavity, produces a constant and steady pressure upon the coagulum, and stops the hemorrhage. But the different, and peculiar organization of the uterus, is such that no dependence can be placed upon that firm, constant, and uniform pressure upon the coagulum, which is necessary to form such an adhesion. Besides, it will be easily understood, that if this contractile force of the uterus does exist, or can be excited, it would be still more effectual in checking the hemorrhage, if the coagulum were out of the way, and the womb suffered to contract to its natural state; which would almost always happen when the contractile force is sufficient to stop the hemorrhage, by pressure upon the coagulum, if it were not prevented by the bulk of this extraneous substance. If the womb is in a flaccid state, the coagula are floating in the fluid part of the blood, and can have no more effect in checking the hemorrhage, than they would have in a bleeding of the stomach, intestines, or bladder. I have said, that no dependence can be placed upon a continued pressure of the uterus upon the coagulum. The natural state of the uterus, except in the process of gestation, is a complete contraction; hence there is a natural, or (if I may be allowed the phrase) an instinctive effort to expel from its cavity, all foreign substances, except a living foetus. This effort is made, not by a steady uniform contraction, but by alternate contraction and relaxation of its muscular fibres, or labour pains. Thus, when a dead foetus, placenta, or coagulum is in the womb, it is seldom that any great length of time elapses, before this effort is excited, and in the relaxation which takes place, in the intervals of pain, the pressure upon the coagulum, &c. is removed, and the hemorrhage returns. It sometimes happens, that the placenta is retained many days after delivery, without producing hemorrhage; but the contrary so often happens, and flooding and death have so frequently been the consequence of

this retention, that it is justly considered an unsafe state. In the same manner, clots of blood may remain in the uterus for a considerable time, and the hemorrhage at the same time be checked. But this fact furnishes no stronger evidence that the hemorrhage is stopped by the coagula, than by the placenta. Both these substances are frequently exciting causes of hemorrhage. The principal reason why the retention of clots of blood is less dangerous than that of portions of placenta, is, that the former are generally more easily discharged by the efforts of nature than the latter. In what manner a hemorrhage, which has been suppressed for a time, is suddenly and powerfully excited, by even a very small portion of placenta, or any other extraneous substance, I shall not undertake to explain. The fact will not be disputed.

The third intention of cure, is the removal from the uterus of extraneous offending substances. But as this intention interferes with the last mentioned, that of plugging up the vessels by coagula, it has not been regarded with the importance it deserves.

1st. Flooding after delivery in child-birth.

It is well known that upon the separation of the placenta from the uterus, after delivery, more or less blood is always discharged. But if the separation is effected in the manner which nature has provided, viz. by the gradual contraction of the uterus, this discharge is seldom so great as to be injurious. But it not unfrequently happens, either from the officiousness of art, from the great exhaustion of strength in the preceding labour, or from some other cause, that the placenta is partially or altogether torn from the uterus, previous to its contraction, and a violent hemorrhage ensues : and this happens, whether the placenta be extracted from the uterus or not. So long as the uterus remains in a flaccid, uncontracted state, the hemorrhage will be likely to continue. The obvious indication in this situation, is to excite this contraction. To effect this, various remedies are recommended. If the placenta is still retained, the most important remedy is to introduce the hand into the uterus, and to continue it there till a contraction is felt, before any attempt is made to extract the placenta. Pressure upon the abdomen, brisk friction, cold applications externally, and introduced into the vagina, are also recommended, and in many cases may be usefully employed.

But in the flooding which takes place, after the placenta is extracted, some difference of opinion exists amongst medical writers. Mr. Burns, under this head page 131, remarks—"Whenever hemorrhage takes place to such an extent as to endanger the patient, then we must interfere more actively ; and I need not

attempt to prove, that the only security consists in uterine contraction. This is to be excited by the application of cold, and by the introduction of the hand, not simply to extract the coagula, but to stimulate the uterus, and rather make it expel them. When the hemorrhage proceeds from an interruption of the process of restoration, our principal resource consists in exciting the contraction of the womb, by the use of clvsters, by friction on the abdomen, by injecting cold and astringent fluids into the womb, by the exhibition of a gentle emetic, and by throwing cold water from a syringe upon the abdomen when the womb is expelling the coagulum. We also check the hemorrhage and save blood by the prompt application of the plug."

Van Swieten directs "That if a too great evacuation after delivery, occasioned by the lumps of clotted blood retained in the womb, should continue, these are to be taken out by the hand with caution." And in section 1321,—“If such a lump should stop up the orifice of the womb, and the flaccid womb should not contract itself, the secret hemorrhage continues, and the whole cavity of the womb is filled with clotted blood, so that the lying-in woman is seized with a violent syncope. The only remedy then, is, by immediately thrusting the hand into the cavity of the womb, to pull out the clotted blood, so that the womb may be able to contract itself and stop the open vessels."

Doctor Denman, page 147, remarks—"After the exclusion of the placenta, on the application of the hand to the abdomen, it is sometimes clear from the volume of the uterus, though contracted, that there are large coagula contained in its cavity. We have been directed, by gentle dilatation of the os uteri, to give them an opportunity of coming away, or even introduce the hand for this purpose; as by their continuance, they were supposed to keep up the distention of the uterus, and to occasion a continuance of the hemorrhage, as well as other mischief. Of any advantage, said to be derived from this practice, I am very doubtful, or whether it may not be suspected to renew or increase, rather than to suppress the hemorrhage. I have never attempted it, nor even troubled myself with the state of the uterus, unless it was inverted, after the placenta was brought away, but have left whatever coagula it contained, to be expelled by its own action."

Here, if I mistake not, is a striking example of error in practice, from the false theory of plugging up the vessels by coagula.

That manual assistance, both with the intention of exciting contraction and removing coagula, is of very great importance, not only in the flaccid state of the uterus, in which it is advised by Van Swieten, Burns, and others, but also in very different circumstances of uterine hemorrhage, and circumstances in which no writer, that I have seen, has proposed it, I am fully convinced. The following cases, selected from many others which I have witnessed will be in corroboration of this opinion.

About thirty-four years ago, a case came under my direction which was to me very interesting. An amiable woman, a relative and an intimate friend, after being delivered by a midwife of her third child, was attended with a most alarming hemorrhage. Several reputable and experienced physicians were consulted. The usual remedies were assiduously employed, particularly rest in a horizontal posture with the head low, cold and astringent applications to the abdomen, vulva, and loins; and astringents internally, but all to no purpose. The discharge continued for two or three days, the pulse became extremely feeble, with great prostration of strength, and extreme faintness. It was suggested by some one present, that a part of the after-birth might have been retained. The midwife who attended her was positive that it came away entire. The patient, was however, examined by another midwife, who reported "that no part of the placenta remained behind; that she extracted some small clots (either from the vagina or uterus,) and placed the womb in a proper position, and put all matters *to rights*." To our surprise, and great joy, the discharge immediately subsided, and did not return, and the woman recovered.

In reflecting upon this case it occurred to my mind, that the suppression of the hemorrhage could not have been effected, merely by the removal of a small quantity of clotted blood, but that some part of the effects, at least, were to be attributed to the contraction of the uterus, excited by the examination and handling of the parts. And I then resolved, that in all cases of flooding, from whatever supposed cause, which should not readily subside by the usual remedies, I would, if practicable, examine my patient. This resolution I have ever since observed, and am confident in the belief, that, with the double intention of removing extraneous substances from the uterus, and by exciting its contraction by gentle irritation, principally at the os uteri, I have succeeded in suppressing hemorrhage more effectually, than by any other remedies which I could have employed.

I was consulted several years ago by a neighbouring physician, who informed me that he delivered his patient six hours

previous to my seeing her. She was flooding profusely, and attended with severe after pains, and great faintness. He had used astringents, cold applications, and the other usual remedies, without any abatement of the discharge. I advised him to extract the coagula from the uterus, and at the same time to gently irritate the internal orifice, and told him, he would in that way, cure his patient. He afterwards informed me, that he extracted half a pot full, as he expressed it, of coagulated blood; his patient was immediately relieved from her pains, and the discharge reduced to its usual and natural state.

Mrs. C——, after a natural delivery, was attended with no unfavourable symptoms for thirty-six hours. She was then suddenly attacked with severe pains, extreme tenderness to the touch about the region of the uterus, cold chills and fever, with a copious hemorrhage. I extracted a considerable quantity of coagula from the uterus. The pains, soreness, fever, and hemorrhage were immediately relieved.

Many similar cases might be added. I would observe generally, that after extracting the placenta agreeably to the rules laid down by most modern writers, I usually remove with my hand the coagulated blood from the uterus; and if the womb is not contracted, I gently irritate the internal orifice for a short time, in addition to what is necessary for the removal of the coagula. To effect these purposes, it is seldom necessary to introduce the whole hand. A part or all of the fingers, are sufficient unless in cases of uncommon flaccidity and profuse hemorrhage.* Should a feeble pulse, faintness or other symptoms, give suspicion of too great a loss of blood, whether discharged from the vagina or not, the patient is again examined, and the same process of removing coagula, and irritation repeated, if found necessary. This may also be necessary, even several hours after the delivery, should the hemorrhage continue, or return after being checked. The after-pains which usually accompany the hemorrhage, are convincing evidence that coagula are present in the uterus as the exciting cause.

As the practice of extracting coagula from the uterus, and exciting its contraction by manual assistance, is so seldom proposed by writers upon uterine hemorrhage, some further

* A respectable Physician of my acquaintance who has full confidence in mechanical irritation as a remedy for uterine hemorrhage, informed me, that he carried with him a smooth piece of alum, of a convenient form, which he used instead of his fingers, to irritate the os uteri, in cases of great flaccidity, when the contraction was not readily excited by the fingers.

considerations of the principle by which it is supported, will be necessary.

Mr. Burns remarks, "the retention of a small portion of the placenta, which has firmly adhered to the uterus, is also a cause of hemorrhage, and the discharge may be renewed for many days, until the portion be expelled. In this case, if by the introduction of the finger we can feel any thing within the uterus, it should be carefully extracted without using much force or irritation, lest we inflame the womb. It is more advisable to plug the vagina, and even the os uteri, so as to confine the blood and excite the uterine contraction." Plugging the vagina, and especially the os uteri, I should judge much more likely to excite inflammation, than careful and repeated irritation of the os uteri, and altogether less efficacious.

Again he observes,—“It may also happen, that from some agitation of mind or morbid state of body, the uterus may not go regularly on in its process of restoration to the unimpregnated state. In this case, the cavity may be filled with blood, which forms a coagulum, and is expelled with fluid discharge. These symptoms very much resemble those produced by a retention of part of the placenta, and cannot easily be with certainty distinguished from them.”

Here again, after recommending friction, cold applications, astringents, &c. his favourite remedy, plugging, is prescribed. But I have great confidence in asserting, that in this case, the hemorrhage may be easily and certainly suppressed, by extracting the clots by the hand. There is no adhesion as is sometimes the case, while a part of the placenta is retained. The clot may readily be broken with the finger. The os uteri is sufficiently open, and all that is necessary is to hook out the pieces with the finger.

“The uterus does not go regularly on in its process of restoration to the unimpregnated state.”

In other words, there is a hemorrhage, and coagula are formed of course. These coagula prevent by their bulk, the complete contraction of the womb, which, together with the irritation they excite, keep up the hemorrhage, or are a continually exciting cause. “The symptoms very much resemble those produced by a retention of part of the placenta.” Why, then, as in the case of a part of the placenta being retained,—“if by the introduction of the finger we can feel any thing within the uterus,” are we not directed “to cautiously extract it,” rather than to prevent it by plugging up the vagina. The reasoning upon this subject is somewhat singular. In a hemorrhage of the uterus, we

are directed to plug the vagina, to give opportunity for clots to form, which clots are to stop, or stuff up the mouths of the blood-vessels. In the case under consideration, clots are already formed, and are the acknowledged cause of the continuance of the hemorrhage, ergo, plug up the vagina, and increase the collection of coagula, and you will "check the hemorrhage, and save blood."*

Dr. Denman, page 186, remarks,—“When we have the management, or are called to cases of preceding or present hemorrhage, the placenta being extracted, it should be an unfailing general rule, to examine the patient, to be sure that the uterus is not inverted; or perhaps, by slight irritation about the os uteri, to endeavour to bring on its action.”

This very important advice of Dr. Denman loses all its force, by the reasons which he has urged for its adoption. We are, to examine the patient, “to be sure that the uterus is not inverted.” As this has never occurred in my practice, I should hardly be induced to examine a woman whom I had delivered, merely to satisfy myself that the uterus was not inverted. He further adds, “or perhaps, by slight irritation about the os uteri, to endeavour to bring on its action.” The doubtful manner in which this important hint is expressed, in connection with the remark which I have already quoted, “that he never troubled himself with the state of the uterus, unless it was inverted,” is

* As plugging the vagina, is, with Mr. Burns, so important a remedy in all the varieties of uterine hemorrhage, the following description of the manner of performing it, and his reasoning upon its mode of operation, and the effects of coagula, will be here inserted. In the hemorrhage which attends abortion, he observes,—“But the most effectual local method of stopping the hemorrhage, is by plugging the vagina. This is best done, by taking a pretty large piece of soft cloth, and dipping it in oil, and then wringing it gently: it is to be introduced with the finger, portion after portion, until the lower part of the vagina be well filled; the remainder is then to be pressed firmly on the orifice and held there for some time. This acts by giving the effused blood time to coagulate. Plugging can never retard the process, nor prevent the expulsion of the ovum; for when the uterus contracts, it sends it down into the clotted blood in the upper part of the vagina, and the flooding ceases. Faintness operates in the same way in many cases, by allowing coagula to form in consequence of the blood flowing more slowly; and when the faintness goes off, the coagula still restrain the hemorrhage in the same way, as when the plug has been used. This naturally points out the advantage of using the plug together with digitalis, as we thus produce coagulation at the mouths of the vessels, and also diminish the vascular action. It will likewise shew the impropriety of using injections at this time; for by washing out the coagula, we do more harm than can be compensated by any astringent effect produced on the vessels.”

satisfactory evidence, that he placed no reliance upon it as a remedy. Indeed it is proposed as preparatory merely, to other remedies which are to be "immediately and strenuously used." If it was the general practice of Dr. Denman, in all cases of hemorrhage, after the placenta was extracted, to examine his patient, and "by slight irritation about the os uteri to endeavour to bring on uterine action" (which action can be no other but contraction) as the first step, he would (if he had been less strenuous and less in a hurry in the application of other remedies) have discovered, what I have no doubt was the fact, that the suppression of the hemorrhage, when it happened, was generally effected without that assistance of his other remedies.

2d. In the hemorrhage which attends abortion, in the early period of pregnancy. Van Swieten, sect. 1309, remarks:—"Hence in hemorrhages of the uterus, which happen during the first months of gestation, it does not seem at all advisable to attempt to bring away the fœtus; for it is allowed by all, that women rarely die of abortion, at this period of pregnancy. Many I have seen preserved by those remedies and management, which have been particularly recommended in sect. 1307, notwithstanding they have been convulsed from the profusion of the hemorrhage, and thought by all present just ready to expire."

Mr. Burns, page 53, observes:—"It was at one time a very frequent practice to endeavour with the fingers, or small forceps, to extract the fœtus and placenta in order to stop the discharge. Puzos strongly opposed this practice, and it is now very properly given up as a general rule. I do not wish, however, to be understood as altogether forbidding manual assistance."

Dr. Denman, page 158, remarks:—"It was said that no manual assistance was required in the management of abortions—and no rule can be more generally true—yet there are some exceptions."

The result of my own observation and experience is in opposition to this general rule. I have so often been disappointed in my attempts to suppress hemorrhage, in the early part of pregnancy, in any other way than by extracting the fœtus and placenta, that for many years past it has been my principal aim, when all hopes of preserving the fœtus was at an end, to effect this object; and very rarely has there been any difficulty in accomplishing it, without violence, or such a degree of irritation as to prove in the least injurious. Advantage should always be taken of the time when the flooding is most profuse, and the pains most severe. In the intervals of pain and flooding, the os uteri may be too much contracted to admit of any assistance. The fingers are generally all that is necessary. In some cases

forceps, guided by a skilful hand, may greatly facilitate the extraction. In a single instance, where the flooding had continued so as to excite great alarm, notwithstanding the usual remedies had been faithfully applied, I found it necessary to introduce the hand into the vagina. The extraction was then effected without difficulty, and with immediate removal of the flooding. In those cases, where the ovum has not been so far advanced as to admit of extraction, the examination, and gentle attempts to dilate the os uteri have, as I believe, abated the hemorrhage, and excited the efforts of nature for the expulsion. Mr. Burns in enumerating the causes of abortion, observes, "that introducing the finger a little way within the os uteri, and irritating the part by gentle, but long continued motion, is the best example of the effect of mechanical irritation."

It will be unnecessary to remark, that I have never been prevented from making the attempt to extract the fœtus, or placenta, from any fear of increasing the hemorrhage by the removal of coagula, either from the vagina or uterus. The following case will be an example of the effects which a very small portion of placenta, or other entraneous substance, frequently have in exciting and keeping up uterine hemorrhage.

Mrs. L., when I first saw her, informed me that she had had a severe hemorrhage for two weeks previous, but that for twelve hours past it had been excessive.

The pulse was hardly perceptible, the extremities cold, and the faintness alarming. I inquired, if she had had an abortion, and was informed that there was no other evidence of it than the hemorrhage, which could not be suppressed by the usual remedies. I examined her, and found a piece of placenta within reach of my finger, which was extracted without difficulty. It was about the size of the end of my finger, and putrid. The hemorrhage immediately stopped, and she recovered.

3d. Of the hemorrhage which occurs in the advanced stages of pregnancy. On this particular state of hemorrhage I have few remarks to make. In all the cases, which have come under my direction, delivery, when it took place, has been effected in the natural way. By dilating the os uteri, such a contraction has been excited as to suppress the hemorrhage, and bring on the pains of labour. But this is not always to be expected. In one instance the flooding had continued twelve hours previous to my seeing the patient, attended with slight and transient labour pains. On examination, the os uteri was dilated so as to admit two fingers. The edge of the placenta presented. By gently dilating the orifice the pains were increased and the hemorrhage greatly checked. The strength was, however, so

much exhausted by the previous discharge, that the pains were feeble, and the faintness alarming. Little progress was made in the labour for two hours—but as the hemorrhage had subsided, it was judged prudent to desist for a time in the attempt to hasten the labour. The patient was advised to use no exertion but what was spontaneous, to take some nourishment, and to rest as well as her situation would admit. After sometime a small dose of laudanum was exhibited. This produced a very favourable degree of excitement. The pains soon after became more frequent and forcible. The faintness was removed, and the delivery happily effected. The placenta was, as I judged, entirely separated from the uterus, and discharged immediately after the child. The child had probably been dead for twenty-four hours. The woman, though extremely exhausted, recovered and has since borne children. This mode of effecting delivery in cases of uterine hemorrhage was adopted as a general rule by Puzos, and highly approved by Van Swieten.

Mr. Burns observes that this was a material improvement upon the blind, rash practice that then prevailed, and that its simplicity gave him, at first, a strong partiality in its favour, but intimates that he has since changed his opinion. “It is, as he justly remarks, a point of great practical importance.”

Dr. Bard in giving directions for turning and delivering the child, when judged necessary, by a flooding, remarks:—“It frequently happens that the first introduction into the womb, even into the vagina, exciting the contraction of the womb, checks the hemorrhage, and then, though we are never to desist, we may act with deliberation.” When it is found that the mechanical irritation which is here mentioned, and which is an example of the principle that I have attempted to support, does in fact check the hemorrhage—it will be an important subject of inquiry, whether some dependence may not be placed on it as a remedy, till time is given for delivery in the natural way without turning the child, in some, at least, of those cases in which immediate delivery is recommended. I have for myself more confidence in its safety and efficacy, in the flooding which takes place before delivery, than in plugging the vagina, or any other single remedy—but at the same time acknowledge that my own experience in this particular case, has not been sufficiently extensive to enable me to decide how much reliance is to be placed on it, in those dreadfully alarming cases of flooding which sometimes occur, and in which the skill, fortitude, and prompt decision of the attending physician are so imperiously demanded. While there is a favourable prospect of suppressing the hemorrhage without immediate delivery, it will be in aid of any reme-

dies that may be employed to remove coagula from the os uteri, whenever labour pains are excited by them. The degree of irritation that can be advantageously employed can best be determined by its immediate effects.

4th. Excessive menstruation.

Mrs. M., aged forty-five, had been for some time irregular in her catamenial turns, and for two or three months previous, had missed. As this was not uncommon with her, and as she had not been affected with the usual symptoms of gestation, she had no suspicion of being pregnant. She was however seized, pretty suddenly, with flooding, but without any considerable pain. The usual remedies were employed. The discharge continued notwithstanding, for twenty-four hours, and her strength was greatly exhausted. A careful examination had been made of her discharges, and neither fetus or any other substance but blood, had been discovered. I then examined her and found the os uteri closed, so that the finger could not be introduced. The clots were removed from the vagina, and carefully examined, and from all the circumstances of the case I was fully persuaded that she had not been pregnant, but that it was merely a case of excessive menorrhagia. After gently irritating the vagina and os uteri, for some time, I was highly gratified to find that the discharge had entirely subsided, and there was no return of the complaint.

Mrs. A., a very respectable widow, the mother of one child, aged thirty-five, regular in her menses, about two weeks after her last turn, was suddenly taken with a violent flooding. The physician who attended had treated her judiciously, with the usual remedies, for six or eight hours before I saw her, but the discharge continued without any intermission; her strength was extremely reduced. As there was but little pain attending, I did not believe that there was, in this case, any clots or other extraneous substance, in the uterus, that kept up the discharge. I mentioned to her the principle upon which I expected she would obtain relief by an examination, which was simply, by gentle irritation about the mouth of the womb, to excite that contraction which was necessary to stop the flooding; and related some of the cases in which I had known it have that effect. She readily consented to any measures which were judged advisable,—viewing her life in imminent danger. I then examined her, removed the clots from the vagina, and found the os uteri contracted. I gently irritated the orifice for several minutes, and had the satisfaction to find that the discharge was immediately and entirely suppressed, and did not return. The same woman has twice since, after an interval of about two years each time,

been similarly affected and relieved in the same manner. These turns of hemorrhage have uniformly been a week or two after the regular catamenial turns. She has attributed them to some unusual bodily exertion, as the immediate exciting cause. In one of the instances I found it difficult to reach the os uteri, and the irritation was of course confined to the vagina, and produced the desired effect. The last time she was attended with the hemorrhage, bleeding in the arm, cold applications, astringent injections, &c. had been premised without relief.

In both of the cases last recited, the hemorrhage was evidently suppressed by the effect of mechanical irritation upon the vagina and os uteri, in exciting contraction, and not by the removal of any extraneous substance.

The principle of exciting uterine contraction by mechanical irritation, with the hand of the operator, has for various purposes, and in various ways, been known and practiced as long as midwifery has existed as an art. It has been employed, with incalculable mischief, to expedite labour in ten thousand instances when no assistance was required, and in some cases when it was necessary and useful. It has been employed to suppress hemorrhage in that flaccid state of the uterus which sometimes occurs after delivery—as has been already noticed, and in a great variety of ways in other conditions of uterine hemorrhage, with a different intention. In the operation of examining the uterus, or of introducing balls of snow, ice, sponges, or cloths wet with cold water and astringent solutions, there is, of necessity, that mechanical irritation upon the vagina, which is calculated to excite uterine contraction, aside from the direct effect of cold, astringents, &c., and thus to suppress hemorrhage. Plugging the vagina is another example of the effect of irritation in exciting this contraction. That this remedy has been often used with success, in suppressing uterine hemorrhage, there is little room to doubt. But that it effects this, by confining the blood, and thus favouring the formation of coagula, I do not believe. The cloth cannot be introduced into the vagina, “portion after portion,” without producing in the operation itself a considerable irritation. Its continuance there will be a continuance of the irritation. In this way, and in this alone, has the operation of plugging the vagina acquired all the celebrity which it has ever obtained. For this purpose, merely, it is a troublesome, inconvenient, uncertain and unsafe mode of effecting the object desired. Dr. Bard remarks, “I confess I have no experience of this remedy, and from the slight manner in which Dr. Denman mentions it, I suspect he was not quite satisfied of its safety and utility. The principal objection to this

remedy seems to be that it may only conceal, instead of checking the hemorrhage—and as sometimes happens from other causes, the woman may continue to bleed internally, although that is not manifested by any external discharge.”

In the several ways which have been mentioned, mechanical irritation has been employed in uterine hemorrhage. Whenever the introduction of any substance into the vagina has been effectual to stop the discharge, some part, at least, of the effects of the remedies which have been thus employed, and frequently the principal part are to be placed to the account of the irritation which has been thus excited, and consequent contraction. But it will readily be perceived, that the principal effect of any remedies which can be inserted, must be confined to the vagina. It is by the hand alone that any remedy can, with safety, come in contact with the uterus for the purpose of irritation—and for this purpose, the hand is all that is necessary. By this the degree of irritation, the length of time necessary for continuing it, and the part upon which it will have the greatest effect, which will generally be the os uteri, can be regulated at discretion—while, at the same time, its effects and the exact state of the hemorrhage can be ascertained.

It is acknowledged that in most cases of flooding, particularly when it precedes abortion in the early periods of gestation (which is of the most frequent occurrence in practice) the efforts of nature, unassisted, will sooner or later expel the offending substances from the womb, and effect the cure. But it is the object of the healing art to preserve health as well as life. The frequent occurrence of obstinate chronic diseases, which are to be referred to a great loss of blood from abortion as their cause, has come under the observation of every practitioner. It will always be an object of importance to prevent a great and long-continued waste of blood, even where immediate danger is not apprehended. The sooner the hemorrhage is suppressed, the less likely will it be to produce that lax state of the system, and especially of the uterine vessels, which is the attendant of perpetual and obstinate menorrhagia or leucorrhœa. In too many instances from this source does the reproach still rest upon our art, which is contained in this short narrative. “There was a certain woman which had an issue of blood twelve years, and had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse.”

It is to be remarked that the employment of mechanical irritation for flooding does not exclude any of the remedies which have heretofore been employed, that are not incompatible with its use. Pressure upon the abdomen, brisk friction, cold and as-

tringent applications and injections, and a due regard to the vital action, may, in many cases, produce the desired effect. In some cases these, or the like remedies, may be advantageously combined with mechanical irritation, and in some all will prove ineffectual. Where life is departing, with the last remains of the vital fluid, it cannot be recalled.

Bleeding may sometimes be useful to prevent, but seldom to cure profuse hemorrhage. Plugging the vagina, and all other means of confining extravasated blood in the vagina, or uterus, ought to be excluded from practice. No favourable effects are to be expected from faintness, which can compensate for the alarm and actual danger which attend it. In addition to the usual means which are employed to prevent or remove this symptom, I have witnessed the good effects of raising the foot of the bedstead so as to favour the pressure upon the brain—the energy of which is sometimes totally destroyed by a sudden depletion of its vessels. It is very justly remarked by Wilson, “that it is only in the active state of the hemorrhage that syncope can be encouraged for its suppression. When the hemorrhage has become passive it is attended with great danger, and must be prevented by the usual means.” The following important advice of Dr. Denman, in cases of extreme exhaustion from flooding, cannot be too strongly impressed upon the mind of every practitioner. “Above all, the patient is not to be disturbed or raised to an erect position, but the small portion of the principle of life is to be carefully husbanded; and there is often a power of living in a quiescent state, or in a recumbent position, when the patient would be destroyed by the least exertion, or by being raised to an erect position. Whether an hour or a day be required for this purpose, after a profuse hemorrhage, the patient ought not to be raised, or even moved, before she is quite revived, and then with the utmost care and circumspection; and through want of attention to this matter sudden death has sometimes happened when we were not suspicious of danger.”

Ergot has lately been employed as a remedy in flooding—of its use, for this purpose, I have no experience. That it usually excites a contraction of the womb is admitted, though I have seen it exhibited in large doses without any sensible effect. From its nauseating effects upon the stomach, and from the difficulty of adapting the dose to the effects required, or of exactly controlling its operation, I should judge it to be a doubtful, and an unsafe remedy in cases of great exhaustion and consequent faintness and nausea. Where mechanical irritation is employed, it will in most cases be unnecessary.

The present improved state of the art of midwifery renders the occurrence of flooding, after delivery, less frequent than formerly. While it was the general practice, both of male and female practitioners, to endeavour to expedite delivery by rough and long continued handling, in which muscular strength was considered an important qualification—and as soon as the bruised head was extracted, to seize it, and drag forth the child with all possible expedition—to tie and cut the navel string and extract the placenta with the same *dexterous* expedition—and the patient, through the whole process, kept in an erect position, and dosed with spirits and hot teas—and after this to be confined to her bed for a week at least, with an unusual weight of covering, in a hot room, with the external air cautiously excluded, without changing her linen or bed clothes, and no regard paid to evacuating the bowels—floodings, puerperal fever, and death, were too often the consequence. It was not till the alarming and extensive mortality from puerperal fever that occurred about thirty-five years ago, in this region of country, that this preposterous management of lying-in women was generally abandoned. White's treatise on this subject, which first appeared about this time, greatly contributed to effect a favourable revolution in the whole department of the management of lying-in women.

And here I cannot but notice the obligation which the public are under to our distinguished countryman, Dr. Bard, for his laudable attempt to extend the knowledge and the advantages of the present improved state of obstetrics, even to female practitioners, and for the very able and judicious manner in which he has executed his design. But notwithstanding all the improvements of the last forty years, in this branch of the art of medicine, there is still too much remaining prejudice in favour of the old system. It will be long, if the time ever arrives, before women in the distress of child-bearing, even in its ordinary favourable circumstances, will be convinced that no assistance can be afforded them in the delivery of the child. The operator must suffer the imputation of ignorance, of inattention, or want of feeling, who shall tell them the truth and withhold his supposed assistance.

In addition to the evil consequences of over officiousness and improper management in delivery, there are many unfavourable circumstances from accident and unknown causes, to which women are liable in pregnancy and in childbirth, which no skill or care of the physician can prevent. The various disorders arising from this source will claim a large share of the attention of every practitioner—and of these, uterine hemorrhage will perhaps be the most important, both as regards its prevention and cure.

The preceding remarks, which are the result of the attentive observation and experience of more than thirty years, are submitted to the candid consideration of the medical profession, in the hope that they will furnish some useful hints, for alleviating the sufferings which are the lot of women, especially in a disorder, which more than any other excites all our sympathies.

I am sensible of the errors, to which physicians are liable from a partiality to particular remedies, and to favourite theories. From this very common infirmity I have no right to claim an exemption. So far as the mode of treatment, which I have recommended, varies from the practice of the most approved authorities which I highly estimate, it ought to be admitted with due caution. It is the test of experience, and a careful examination of the principles upon which any mode of practice is founded, that can sanction it. Truth is the only authority to which we are bound to give our unqualified assent.

Sharon, Con.

Practical Observations on Colica Pictorum.

By JAMES MANN, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

A DISEASE marked with all the symptoms of Colica Pictorum has a conspicuous place, on my sick report for the month of August last. The unusual number* attacked with this formidable complaint, induced suspicions, that there "was death in the pot." Upon strict examination, it was ascertained, the disease did not originate from kitchen utensils. Liquors drunk by the men were also suspected to have been adulterated with acetite of lead; these were tested, without giving the usual evidence of the existence of a mineral poison.

The symptoms accompanying this disease are unusual as to severity in colics produced by simple indigestion. The pain in the umbilical region was extreme, and accompanied with incessant puking, mitigated with only large doses of opium. In one case, nine grains of solid opium and half ounce of the tincture were administered, before the pain was mitigated; and after its removal, the above symptoms recurred, when the effects of the anodyne were off, until free evacuations by the bowels were produced by cathartics; for which intention from 70 to 100 grains of calomel were administered, and followed by four to twelve ounces of castor oil. In one case the pain in the bowels was attended with general tonic spasm, under the form

* Twenty.

of opisthotinos. In two instances, the disease was accompanied with mental derangement. In all cases there was tension and soreness on pressing the abdomen, in one, these inflammatory symptoms indicated venesection, which proved beneficial, inasmuch as the operation mitigated the pain.

It is remarkable that free evacuations by the bowels did not obviate a recurrence of all the formidable symptoms. If cathartics were discontinued twenty-four hours, the disease returned, so that daily administration of cathartics for a week or more, seemed necessary to excite the peristaltic action of the intestines. In the course of the disease, auxiliary remedies were employed, as blisters, warm bath, and enemas; from which, however, but little, if any mitigation of pain was obtained. Laudanum and calomel, were the principal remedies to be depended on; and castor oil, after mitigation of pain, to promote the cathartic operation. Convalescence was slow, and advanced under the use of cathartic remedies. No case of death occurred, although several cases were so severe, as that dissolution was apprehended.

Coincident with the above disease, I will here state a singular case of a man who took tinc. of cantharides, for the avowed purpose of exciting his venereal desires. It seems, according to his own confession, the drug was highly recommended by some person, who had seen or experienced its effects. The man, as an allay to his sensual gratifications, took too potent a dose. Its effects, indeed, were not dissimilar to the cases of Colica above mentioned, as nausea, vomiting, pain in the umbilical region, constipation, soreness in the abdomen and strangury. These symptoms, yielded to or were removed, in like manner by opium, calomel, castor oil, and mucilages. The concurrence of the last case, with those of colic, and with similar effects, induced a conjecture, that cantharides may be enumerated among the causes of colics; this conjecture is strengthened by some facts within my knowledge. A dealer in ardent spirits, many years past, informed me that rum and whiskey below proof were apparently improved when tested by the bead, by the addition of Cantharides. The experiment was made in my presence on several casks of rum. I remonstrated, at the time, against this unjustifiable *déception* and deleterious adulteration. He observed, in justification, that the art was obtained from a person, who had long practised this adulteration, and that, as it regards health, no ill consequences, had followed the use of these liquors within his knowledge. A profit of five or ten per cent. was a sufficient inducement to continue the practice, probably as long as he was in the business of selling liquors.

It is well known to the Surgeons of the army, on the northern frontiers, that several deaths occurred, the consequence of a disease similar to the *Colica Pictonum*. COLONEL CRISTIE a most promising officer, without any doubt fell a victim to this disease; whether produced by pills of acetite of lead, administered at that period by some surgeons to check diarrhæa, in conformity to the recommendation of Doctor Barton, of Philadelphia, or by adulterated liquors, is not known. But the cases of COLONEL JOHNSON and MAJOR BEEBE are now remembered to have been occasioned by acetite of lead administered to check obstinate diarrhæa. The two last also died with *Colica Pictonum* or its effects, the first suddenly, the last with a protracted disease. Both begun the use of the pills at the same time, and were pleased with their immediate effects; ambitious to perform their duty, they kept a box of these pills in their pockets, and took them daily or occasionally, when the diarrhæa returned, until the fatal attack of colic, convinced them, when too late of the deleterious effects of the medicine. Acetite of lead, it is true checks diarrhæa, but it is equally certain, that in some instances, diarrhæa thus stopped is immediately succeeded by the more formidable disease of dropsy, which, in its turn, is to be cured by promoting a return of diarrhæa, by the employment of cathartics. Many cases of the last effects of acetite of lead, as well as colics fell under my observation in the military hospitals on the frontiers.

Without entering largely into a physiological discussion of the phenomena of the translation of the disease from one organic part of the body to another; or, in what manner checking a diseased secretion of one organ may induce a diseased action of another, in a medical point of view the fact itself is important. For instance, the diseased secretion which constitutes virulent gonorrhæa is often apparently cured by astringent injections, without other remedies. Are these cures effectual and permanent? From my own experience and observation, they are not in all cases. The primary disease may be removed by such practice, but, the evil consequences of such insidious cures may be formidable.

When the lymphatics, in consequence of diseased action empty their fluids into one cavity in superabundance, as in diarrhæa; a sudden restriction of their mouths produced by a powerful astringent, like the acetite of lead, must occasion a retrocession of their contents, which may flow where the fluids meet with less resistance. Thus we may account for dropsy, in cases where diarrhæa has been checked by acetite of lead. The last form of disease, judging from known laws of the ani-

mal economy, will be more disposed to succeed diarrhæa, where the cuticular secretions have ceased under states of debility. In connexion with the last observation, and with a view to confirm its truth, it may be necessary to remark that both idiopathic diarrhæa and dropsy are usually accompanied with dry skin.

It is practically useful to extend the sphere of knowledge. The more numerous the cases are, in which potent remedies are administered in doses unusually large to remove obstinate diseases; the greater confidence is placed in their administration, when obstinate states of disease demand energetic practice, especially if the effects of uncommonly large doses are uniformly beneficial, and not succeeded by deleterious consequences. It may be conjectured that the quantity of sub-muriate of mercury which was administered in the above cases, must necessarily, from its known effects in common use, produce bad sore mouths and a high degree of salivation. In two cases only there was a little soreness of the gums, which was removed in a few days. and from which the patient experienced no inconvenience.

I recollect some years past to have been called in consultation with Doctor Green of Mansfield, to a patient under an obstinate attack of *Colica Pictonum*, (this was an indisputable case, as the subject of disease was a painter) to whom sub-muriate of mercury was administered, after all other remedies had failed to procure relief, in doses of one drachm, until one ounce of the drug was taken in the space of thirty-six hours. In another case of the same disease, the patient also a painter, six drachms of the sub-muriate of mercury were given by Doct. Wales of Braintree; these patients both recovered from disease, without any unpleasant effects from the large quantity of the medicine required to remove the constipated state of the bowels.

Doct. Fisher, president of the Massachusetts Medical Society, in an excellent practical communication on the treatment of *Colica Pictonum*, relates several cases, in which opium in unprecedented doses was administered to mitigate pain, and with immediate good effect. This disease since his publication is better understood, and more successfully treated than before. He however merely observes, it is necessary, after opium has produced its effects by removal of pain, to obviate constipation of the bowels by cathartics. Doct. Fisher, if my recollection is correct, does not suggest that unusually large doses of cathartic medicine are required, nor does he notice recurrence of pain, as was experienced in the preceding cases, where cathar-

tics were discontinued for a short period. Different states of disease in respect to severity of attack, as well as circumstances of inflammation accompanying the constriction of the intestines may account for the apparent difference of treatment. In the cases here reported, the pain was overcome by smaller doses of opium, than Doct. Fisher administered; while to remove or obviate more obstinate constipation or spasm of the bowels, cathartics in larger repeated doses were found necessary.

In all cases of colic with puking, the first intention is to remove pain by opium, as soon as pain is removed, puking ceases. The second intention is to obviate restrictions of the bowels by cathartics; of this class of medicine, calomel is most to be depended on, because, in the event of nausea, or effort to vomit, calomel is retained, when other cathartics may be ejected; besides, it is believed, that calomel by its specific action on the intestinal canal, is better adapted to remove inflammation, which is believed to be the proximate cause of all the obstinate symptoms which accompany the disease.

Remarks on the Articulation of the Teeth, with the Alveolar Processes. By T. W. PARSONS, M.D. Surgeon Dentist.

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THE connexion of the teeth, with the alveolar processes of the jaw, presents a peculiarity of conformation, not discoverable in any other part of the body, and although the fact is generally admitted, that between each tooth and its socket, a degree of motion naturally takes place, they are nevertheless usually classed among the immovable articulations.

The teeth possess a degree of solidity and strength, which is perhaps not surpassed by any other articulation, and which so far as relates to their connexion with the alveoli, is almost wholly dependent on the membrane by which each tooth is united to its socket. The particular formation of the fang, and socket, is not of itself, sufficient to preserve its solidity. It seems to exercise only an indirect and limited influence in relation to the strength of the part, and presents but little appearance of that nice construction, and adaptation of one part to another, which we notice in the immovable articulations, where, the principal design seems to be, to secure strength by the general mechanism of the bones only, independent of any other means. We notice this kind of formation in all, and it is

one, which appears to be, in some measure characteristic of the immovable articulations; thus, some of the bones of the face and head, derive their principal solidity, from the peculiar formation of their connecting edges, which are either so fitted to each other, or locked together, as to render their separation very difficult. The different bones which compose the head, are in this manner, so completely secured, that they remain firmly united together, after all the soft parts have been removed by maceration and so perfect is their union, that, in the adult cranium, a considerable degree of force is necessary to separate them.

In the teeth, on the contrary, we find but little in their mechanical adaptation to the alveoli from which we should be led to infer any considerable degree of security or strength.

We observe their fangs, of a conical, or nail-like shape, perfectly smooth, and so loosely fitted in their sockets, that the slightest force is sufficient to remove them. This is particularly true of all, excepting the molar teeth, each of which have generally two or three fangs, that are not unfrequently a little curved at their extremities and which in some measure favours their attachment to the alveoli.

The above facts are made sufficiently apparent on examining these parts in the skeleton, and it is perhaps, not necessary to observe, that in comparing the teeth with the immovable articulations, I allude only to the strength of connexion which they each derive from the formation of their bones merely. Whenever motion takes place in the immovable articulations, it is usually the consequence either of injury or disease, while in the teeth, a degree of motion seems to be a necessary provision, instituted for the prevention of the concussion which must inevitably be produced in shutting the teeth together with much force, provided they were perfectly immovable in their sockets. The yielding motion of the teeth in their sockets although ordinarily obscure, is yet apparent on biting upon a solid substance, it is however, more particularly observable upon biting with a tooth, the membrane of whose fang is a little inflamed and its sensibility consequently increased.

The connexion of the fang of each tooth with its alveolus, is, as I have already observed, in a great measure effected by an organized membrane, covering the fang, and lining the alveolar process in which it is contained; and so indispensable is this membrane to the security of the tooth, that its destruction whether by disease, or injury is generally succeeded by the loss of the tooth, while, on the contrary, every other part of it,

excepting only the fang to which the membrane is attached, may be destroyed, yet, so long as this remains, its connexion is maintained unimpaired. A tooth may be broken, and its enamel completely removed by the actions of a highly concentrated acid, the vessels of its cavity drilled out and entirely destroyed, yet its connexion with the socket is unaffected, provided the membrane of its fang remains uninjured.

Although the solidity and firmness of the teeth, are not, as we have seen, directly dependent on their conformation with the alveolar processes, yet these when viewed in connexion with the other parts which compose this articulation, are nevertheless very important to it. By the alveolar processes, the teeth are enclosed to a certain extent in separate bony cavities, by which a uniform distance is preserved between their fangs, and their motion, (which but for the alveoli would be considerable) is very much limited.

Another important use of the alveolar processes in relation to the teeth, and one by which their connexion is very much strengthened, is, the attachment they afford to the gums, and to the membrane, which covers the fang of each tooth, and lines the alveolus in which it is contained.

The loss of the teeth very frequently follows from the diseases of the alveoli; but I think, that, in some cases, this may take place, rather from the participation of the membrane in the affection of the alveolar process, than, as a necessary consequence resulting from its diseased state alone, or in other words, provided the alveolus could be removed, in such a way, as not essentially to injure the membrane of the fang or parts adjacent to it, I conceive it probable, that an adhesion might take place between the membrane and the gum, sufficient to preserve the tooth in its place.

In objection to this opinion, it might perhaps be stated, that the removal of the alveoli in the advance of life, by absorption, would seem to convince us to the contrary, but it should be recollected that in these cases, in addition to the removal of the alveoli, there are at the same time actions corresponding and harmonising with it, taking place in the gums, at the extremity of the fangs, and in the membrane with which they are covered, all uniting, as it were, by common agreement to effect the removal of the teeth.

I have met with a few cases, where a partial absorption of the alveoli has commenced early in life, that is to say, in persons about thirty years of age, and which has not been accompanied with a corresponding disposition in the adjacent parts; in these cases although there is generally a considerable recession

of the gums, some irregularity and a much greater degree of motion of the teeth than usual, they have nevertheless preserved their connexion with the gum, notwithstanding their alveoli have been removed to a considerable extent. Although cases of this kind have probably been noticed by those conversant with the diseases of the teeth, yet I never recollect to have seen them mentioned by any author, with the exception of Mr. Hunter. He had probably met with instances of this kind, as he alludes to cases, where the teeth remained firm, notwithstanding the alveoli had been removed, and he seems to have been doubtful, whether it took place by a union of the membrane of the fang, to the gum, or whether, a new growth of the alveolar processes might not take place.

In those cases, in which the alveoli have been removed, without a corresponding action taking place in any of the adjacent parts, is it not probable, that such a degree of inflammation might ensue as to effect an adhesion between the membrane of the fang, and the gum with which it is in contact? The inflammation either originating first in one of these parts and communicating to the other, or affecting at the same time, the gum adjacent to, and the membrane itself.

Instances very frequently occur, where one or more teeth remain attached to the gum, for a long time after their alveoli have been removed, even where there is a uniformity of action in all the contiguous parts to expel them; in these cases the union of the fang with the gum, appears to be kept up by a small portion of the membrane, that has not yet been removed, and which, on extracting a tooth in this state, is seen only at the extremity of the fang, this alone serving for its connexion with the gum, after every other part of the fang has been entirely denuded of its membrane.

The primary teeth of children retain their connexion with the gums, after not only the alveoli, but a considerable portion of their fangs have been absorbed.

Whenever the absorption of the alveolar processes has commenced, we may easily conceive the ill effects that must necessarily result from an accumulation of tartar about the necks of the teeth, or from any other irritation applied to them, which readily disposes the gums and neighbouring parts to assume or continue that kind of action, which had commenced in the alveoli, and which would probably terminate only in the protrusion of the teeth.

The membrane covering the pulps of the teeth, previous to their passing through the gums, is described by Bichat* as being

* Anatomie Generale.

reflected, and in every respect relating to its character, analogous to the serous membranes. After the ossification of the teeth is completed, that portion of the membrane which lines the alveoli, it is stated, remains the same, while the other, or that part of it which is reflected, passes into the dental cavity, an arrangement which is considered as contributing, in some measure to the security of the fang in its socket.

A very similar description of this membrane is given by Mr. Hunter, while it remains covering the pulps, but after the ossification of the teeth is completed, and before they make their appearance through the gums, it is said to be gradually absorbed, and entirely removed by the time the teeth are perfectly formed.

The existence of this membrane, on the pulps of the teeth, and its perfect analogy to those of the serous class, as relates to its form and character, and to the fluid which it exhales, is a fact universally admitted, and which is sufficiently demonstrable on examining the rudiments of the teeth in a foetus of six or seven months old; but whether, as the ossification of the teeth advances it is removed, or whether, as Bichat supposes, it remains after this process is completed, I am not from my own observation prepared to say.

The membrane which unites the teeth to their alveoli, after their formation is completed, has hitherto, very generally been considered as a fibrous membrane, and answering the same purpose in relation to the teeth that the periosteum does to the bones.

If this description of the membrane be a correct one, do not the teeth present a peculiarity of structure, so far as relates to the manner of their union with the alveoli, not to be found in any other part of the body, viz. the connexion of bony surfaces, between which a slight degree of motion naturally takes place, and which have only a common periosteum interposed between them?

The result of some experiments which I have made in order to determine the true character of this membrane, have not hitherto been sufficiently satisfactory to enable me to speak with much confidence on this head.

The diseases of the membrane of the fang are of very frequent occurrence. It occasionally happens, that in consequence of great irritation of the vessels of the cavity of a tooth, severe and extensive inflammatory affections take place in the neighbouring parts, and in which the membrane of the fang usually participates.

Many of the painful affections of the face are, if cautiously examined to be traced, to the diseases of this membrane, which probably, originate either primarily in the membrane, or follow from the irritation or disease of parts adjacent to it. The effects of previous inflammation are often discoverable on the fangs of teeth that have been extracted, the membrane being very much thickened, and presenting a sort of cartilaginous appearance. Suppuration frequently takes place on the fangs of the teeth, occasioned sometimes, by the irritation arising from an accumulation of tartar around them. It also occasionally follows sympathetically, from the irritation of caries and from a variety of other causes. In some instances, the matter is contained in a little bag, pendant from the extremity of the fang, to which it is attached, and appearing to be formed by an elongation of the membrane. In other cases, the matter is spread over the whole surface of the membrane of the fang, and alveolar cavity, out of which it sometimes oozes after the removal of the tooth.

I have already mentioned, that a sympathetic inflammatory affection of the membrane of the fang, sometimes takes place in consequence of the irritation of the vessels contained in the cavity of a tooth. I know of no instance in which this takes place to such an extent, or is attended with more unpleasant consequences, than where it follows from the usual method of drilling out the nerve and vessels of the cavity, preparatory to securing an artificial tooth, provided that at the time it is performed, the vessels of the cavity are entire, and the sensibility of the nerve acute.

It is a little remarkable, that this affection, which is by no means rare, should have been so little noticed by authors, or so little pains taken to prevent it, since, I am well convinced, it follows, not as a necessary and unavoidable consequence of the operation itself, but from the injudicious manner in which it is usually performed.

I have invariably noticed, that when the nerve of a tooth has been wounded, lacerated or only partially destroyed, or if a portion of it has been left at the extremity of the stump, after drilling, that much pain, and generally very severe and extensive inflammatory affections have followed; and I think that attention to this circumstance, especially where it is designed to secure an artificial tooth to a stump, after its nerve has been drilled out, is a very important point, and one of more consequence than is generally supposed.

At the commencement of my practise as a Dentist, there was no operation that I more dreaded to perform, than to destroy

the nerve of a stump, for independent of the immediate suffering, I confess that hardly a case of this kind occurred to me, which was not followed by extensive inflammation of the gums, cheek, and face, extending to the membrane of the fangs and to the alveoli, and in or two cases termination in suppuration, ulceration and eventually the protrusion of the stump. These cases, even when mild, were generally of so intractable a character, that there was no course of treatment which I could devise, whether constitutional, or local, that seemed to have the smallest effect, either to prevent their recurrence, or abate their violence.

Aware of these distressing consequences, I have occasionally declined operating in these cases, recommending the patient, though contrary to their wishes, to wait, until by the gradual process of decay, the sensibility of the nerve should become impaired; and it was not until after a very careful examination of the manner in which I was in the habit of destroying the nerve, that I became perfectly convinced, that it was to this circumstance alone, that all the subsequent ill effects were to be referred.

In conformity with this opinion, in every case of the kind which has fallen under my observation since, I have invariably removed the artificial tooth, re-drilled the stump with great caution, observing to leave in it, no portion, either of the nerve or membrane of the cavity, wiped away all the small pieces of bone, which might have remained after the operation of drilling, and replaced the tooth; and in every instance, where these pains have been taken to destroy the nerve and membrane entirely, before securing the tooth to the stump, as well as in those cases, where this has been done after the tooth has been secured, and before the inflammatory symptoms have become extensive, the success of this practise has been unequivocal. I think farther that I am warranted in asserting, that whenever these painful affections take place after securing an artificial tooth to a stump, the nerve of which it has been necessary to destroy, they will generally be found to follow, in consequence of the irritation arising from a portion of the nerve attached to, and remaining in the cavity of the stump that has not been destroyed by the operation of drilling, and which is in a state of compression by the means used to secure the artificial tooth.

The effect produced by the compression of the nerve in this case, seems to be analogous to what takes place in every part of the body under similar circumstances; for, the partial division, laceration, or wounding of a nerve is infinitely more likely to be followed by unpleasant consequences, than if it is

completely divided, or a portion of it entirely destroyed. Of this fact we occasionally have an example, in the local and constitutional irritation, arising in consequence of the wound of a small nerve in the operation of venesection. The analogy holds likewise with regard to the treatment; for in both cases, the only remedy to be depended on, and the one, which in the injury of the nerve in venesection, is usually practised, is in effect the same, i. e. either the complete division, or destruction of the nerve.

It should be observed, that even when the nerve is drilled out with the utmost caution, a slight swelling of the gum will sometimes take place after setting an artificial tooth, arising probably from the irritation produced by filing down the stump, this also frequently happens where the nerve has been dead for a long time, but in these cases, the inflammation is slight, unattended with pain, and never giving rise to those severe and obstinate affections which so generally succeed the incomplete destruction of the nerve.

Application is frequently made to the Dentist, to extract a tooth that is perfectly sound, and which has become painful. As there are a variety of causes independent of caries, capable of exciting painful sensations in a tooth, it is of no small importance to be able to discriminate them, or order to adapt our practise, in these cases, to their removal, in preference to the removal of the tooth, which in many instances, so far from affording relief, aggravates the disease, and should never be adopted in any case, unless there is every reasonable prospect that it is the only effective remedy.

An inflammatory affection of the membrane of the fang, is a much more frequent cause of pain in a tooth, than has been generally imagined, this sometimes takes place in teeth that are perfectly sound, as well as in those that are decayed, the pain may proceed from inflammation of the membrane, and not from the irritation of caries, and cease immediately on the removal of the inflammation.

When we reflect on the additional suffering occasioned by extraction under these circumstances, and the advantages sometimes resulting from the preservation of a tooth, even when partially decayed, it cannot be considered unimportant to attempt it, as it may easily be effected in almost every case, before, and not unfrequently, after suppuration has taken place. It is sometimes more difficult to satisfy ourselves as to the nature of a disease than it is to adapt remedies to it when known; the most successful method with which I am acquainted, by which we can ascertain whether the pain of a tooth proceeds

from the inflamed state of the membrane of its fang, and one which I have practised for some time, is, by percussion; by simply striking a tooth in this state with a steel rod, a very singular, and painful sensation is felt, not only in the tooth itself, but in the jaw, seeming as if the tooth when struck was much larger, and extended deeper into the jaw than any of the other sound teeth, upon which if we make the same experiment, but little or no sensation is produced.

The same effect is found to follow from pressing the steel rod firmly against the tooth and making with it at the same time, a slight motion from side to side.

In a tooth that is decayed, it is very easy to determine whether the pain proceeds from the caries, by the acute sensation which is produced on passing a probe into it, a practice that ought be adopted in those cases in which we have any doubt as to the nature of the disease, since, we may generally conclude that if no sensation is produced by this mode of examination, there is but little probability, that the pain proceeds from the carious state of the tooth. It sometimes happens, where the pain of a defective tooth evidently arises from its carious state, that percussion will produce a painful sensation, but this usually takes place where the pain has been very severe and protracted, a case, which generally admits of no relief but the extraction of the tooth. Whether the pain produced by percussion arises, simply from the carious state of the tooth, or whether it follows from the inflamed state of the membrane, which so frequently takes place in these cases from the irritation of the caries, I am not prepared to say. Painful affections of the teeth frequently take place from the operation of a variety of other causes, besides those already referred to, but as a consideration of the diseases of the teeth is no part of my present object, I shall not now advert to them.

The loss of a tooth may perhaps appear to be of but little consequence, and very frequently this is the case, but under certain circumstances, the preservation of a tooth is a matter of such importance, that I think it always advisable to attempt it, whenever there is a reasonable chance of success, and the wishes of the patient are in favour of the experiment. The immediate extraction of every tooth that has become painful, is an operation too generally resorted to, and I have known so many instances, where tooth after tooth has been sacrificed without affording any relief, that I now never advise it, except in those cases, where it appears to be indispensably necessary.

A Case of Arm Presentation, with Remarks. By W. CHANNING,
M. D.

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MRS. B. aged about 40, the mother of six children was taken in labour with her seventh, Sept. 11th, 1821. Her physician was called, and saw her on the 12th. The membranes were found ruptured and a hand presented. The external organs were soft and yielding, the mouth of the womb dilatable, and every thing promised a successful and easy turning. To this operation the patient could not be induced to submit. She obstinately resisted every effort that was made to accomplish it. The uterus seemed to act in a regular, though not very powerful manner. The hand soon came down so as to appear externally as far as the wrist, and continued, in this state till the afternoon of the 13th. It was ascertained to be the right hand that was down. I was requested by Dr. Hale, the attending physician, to see this patient between seven and eight A. M. of the 13th. I found her sitting on the floor, complaining excessively, but rather with the expression of great anger or querulousness, than of severe bodily suffering. She begged to be delivered, but absolutely refused to get on the bed, or in short to receive any assistance, otherwise than according to her own notions, and after her own manner. She had now been full 48 hours in ineffectual labour. I should have referred her state of mind to this long period of suffering, and to the exhaustion which such a process frequently induces. I was informed however that this had been her state from the beginning, and that her intractableness might with safety be referred to the excessive use of ardent spirits which she had indulged from the beginning of the process. Finding that nothing was to be done, it was agreed that laudanum should be given and repeated after a proper interval, till rest should be induced. It was farther determined on, that when this took place an attempt should be made to turn the child. This measure seemed decidedly indicated, for the arm had not advanced so far, as to prevent us getting the feet. I saw the patient again at noon, and found that the whole quantity of laudanum written for, half an ounce, had been taken, from carelessness about the directions on the part of the attendants, in the short space of two hours, and that the patient had consented to get on the bed, and was now more tranquil than in the morning. She was not at all disposed to sleep, nor were the regular efforts of the

womb suspended. Her pains were distinct, and their intervals good. I now made an attempt to turn. The external organs readily admitted the hand, and the pelvis was found well formed. The fingers having passed the mouth of the womb, the sides of this organ were found to be in close contact with the child in every direction. The waters had now been draining off for many hours, and the uterus seemed to contain nothing but the fœtus and its appendages. The least attempt at moving the hand, even when a pain subsided, excited a new one, and the hand was felt to be forcibly protruded from so much of the cavity of the womb as it had been made very gradually to enter. The attempt at turning was for the present relinquished; with a determination to renew it at three in the afternoon, unless some circumstances should occur to make an earlier delivery necessary.

I met Dr. Hale between 3 and 4 p. m. Much stronger efforts had occurred on the part of the uterus, and the whole arm to the axilla was soon protruded. The arm was black and rigid, and forcibly bent over, and against the symphysis pubis. We now resolved to trust the case to the spontaneous evolution, or more properly expulsion, and there was good reason to look with confidence, to the accomplishment of this interesting process.

The gentleman who had been in constant attendance, when Dr. Hale was necessarily absent, was requested to remain, and carefully watch the case. Though so much had been done by the womb, still much remained to be accomplished, and the pains were not of such a character as to terminate the case speedily; at least if the representations of those physicians who have seen the greatest number of similar cases be correct. There was every reason in this case to believe the child to be dead. The arm exhibited the usual marks of general death, and no movement of the child, had been noticed for many hours. There was nothing to be gained by hurry in this view. The patient, though she had suffered for so many hours, was not in an exhausted state, for the womb still manifested much power. Her situation did not therefore demand artificial assistance. The case was therefore trusted to the natural efforts, and I left, to visit her again at 7.

Seven p. m. The pains had continued, but the patient had again become extremely restless, and as intractable as before the use of the laudanum. Her pulse were now very quick, and great distress was observed on the countenance. It was now very clear, that, notwithstanding the continued efforts of the womb, the patient was approaching a state of dangerous exhaustion, and that measures should be speedily taken to pre-

vent it. The child being believed dead, and if we erred in this opinion, no hopes being entertained that it would be born alive, it was an object of very little importance in the higher interest which the situation of the mother excited.

The situation of the child with regard to the pelvis was as follows: The right arm presented; the shoulder rested against the symphysis pubis; the head was to the left side of the pelvis; the right side of the thorax looked towards its posterior part; the back, at its upper part, occupied the anterior portions of the pelvis; while the breech was towards its right side. The ribs of the right side of the fœtus could be easily felt; and the edges, also, of the false ribs of this side, at their anterior part, or in the neighbourhood of the sternum, could be reached without difficulty. With a little effort, similar points of the ribs of the opposite side could be reached.

Two objects presented themselves as especially important in this case. The first was the accomplishment of delivery in as short a time as it could be done with safety to the mother. The second, the employment of such means, as would be effectual, but still with the production of the least injury to the body of the child. The motive for the first, was the dangerous situation of the woman; and for the second, a desire to ascertain distinctly, if artificial assistance might not be rendered in a similar case, after such a manner, as, supposing the child to be alive, its life might be preserved; and if dead, if it might not be delivered without the mutilations which are directed in some books.

From a careful attention to this case, through its whole progress, every important occurrence was distinctly noticed. These consisted, in the gradual descent of the arm, first in the direction of the axis of the vagina, and afterwards with an elevation towards, and its ultimate pressure against the pubis; in the descent of the shoulder of the right side of the thorax; and lastly of the false ribs of that side. The further progress of the body was thus clearly indicated; and it was obvious that one hip, or the right side of the breech would first arrive at the perineum, and be first excluded. In rendering manual assistance, all these circumstances claimed a particular regard, for it was obvious, that it was only by acting with reference to them, that the delivery could with ease or safety be assisted.

The woman was placed on her left side.

It remained now to decide what instrument should be employed, and it was agreed to use the crotchet. Our reasons for the choice, were, that it would occupy less room in the pelvis than the blunt hook; it would retain its place more certainly, and if managed with care, might do very little injury to the child. Another

question, of some moment, next occurred; it was where we should place the instrument; where it would be most secure, and give to our exertions with it, the most beneficial tendency. The crotchet was placed over one of the lowest ribs of the right side, at its *anterior* extremity, or near where it goes to join the sternum. This was easily done, the integuments possessed no sort of elasticity or tension, and readily allowed themselves to be folded over the turn of the instrument. This state of the integuments may be attributed to the death of the child, which there was good reason to believe, had taken place some time before the attempt to assist the evolution was made. Two fingers of the left hand were placed over the instrument, where it was fixed on the rib, and kept it securely in its situation. The right hand embracing the shank of the instrument firmly, an extracting effort was made during the first pain that came on. Dr. Hale observed that the child advanced during the effort, and that a sensible pressure was made on the perineum. When the pain subsided, the effort with the instrument was suspended, and renewed with the recurrence of the next pain. When this had ceased, the patient requested and demanded us to give her some brandy, or she should expire. The request was repeated again and again, in violent and urgent terms, until it was complied with. A severe rigor occurred immediately on swallowing the draught, and when at its highest, almost amounted to convulsion. The pains entirely ceased. The skin became cold, and the pulse exceedingly hurried. When these symptoms had in some measure subsided, it was determined to accomplish the delivery as the only means of preventing death. Under the use of the instrument, the child descended gradually, but constantly. The perineum became fully distended, the right buttock first appeared, and momentarily with it the whole breech. The lower extremities soon followed. As the breech passed the external organs, *the handle of the instrument was forcibly elevated by the movements of the body, towards the pubis, and assumed the direction of the arm which presented. The arm preserved its original situation over the pubis, not a particle of it being returned into the vagina during the evolution.* The other arm and the head soon followed.

The placenta came away in a few minutes after the child. The whole process, from applying the instrument to the delivery of the placenta, occupied about twenty minutes. The child proved to be a female. It weighed seven pounds. The arm was black, and the right side, over the whole extent of the great pectoral muscle, was of the same colour. A slight scratch only was observed at the spot to which the crotchet had been applied.

Great exhaustion occurred in the mother after delivery. No re-action took place in the system from the time of her delivery to that of her death, which last took place on the evening of the 16th, just three days from her confinement.

In remarking on the foregoing case, it will be proper, in the first place, to speak of the habits of the patient, for these undoubtedly had an influence, and a powerful one, over its termination. The patient was in the constant practice of drinking large quantities of ardent spirits. This was habitual with her during pregnancy; and, within a fortnight of labour, she had a violent quarrel with a neighbour, and much injury was experienced by the parties concerned. During the labour she continued, in the absence of her physicians, to take large quantities of ardent spirits. It was, in short, her whole diet during this long process. It was owing to this, probably, that half an ounce of laudanum, taken within the space of two hours, hardly produced any of the specific effects of opium. The tendency of the habit was repeatedly stated to the patient, but it was impossible to restrain her. Such was her situation, that little of the attention which is required during labour, on the part of a nurse, or friends, could be afforded her. These attentions were, in short, forcibly resisted by the patient.

After confinement, her situation was such as to preclude all useful care. She was constantly under the influence of ardent spirits; and the interest which the process of labour had excited in her acquaintance, declined when it was over. She was now left very much to herself, and died in a state of intoxication. These circumstances have been more particularly mentioned, because they had their influence over the labour in the first place, and were very certainly the causes of death. They deserve notice, farther, because in no case, as far as the recollection of the writer serves at this moment, has the *spontaneous* evolution been followed by death, and to obviate the tendency this case might otherwise have, to detract from the value of artificial assistance in similar cases.

2. The assistance afforded in this case, differs somewhat from that which has been employed in others on record, in which artificial means have been thought proper. In the first place, no great violence was offered to the body of the child. The great cavities were not opened, nor their contents removed; and still the delivery was easily accomplished. There seems, indeed, no good reason for resorting to such measures in these cases. The diminution in bulk, as effected by them, causes no alteration in the *length* of the trunk or the spine, nor does it diminish the size of the breech. The curve formed by the spine,

and terminated by the breech, remains, of course, precisely the same as before the operations referred to, and this constitutes the bulk, or absolute body, which is to pass the pelvis and external organs.

3. Mutilation of another kind has been practised in these cases. The presenting arm has been separated at the shoulder previous to, or after, the opening of the great cavities of the trunk. I confess I went to this case furnished with the means used in such cases, and with a disposition to employ them. Upon reflection, however, I was disposed to relinquish this purpose. It did not appear to me that much was to be gained by removing the arm. In the first place, there was abundant evidence on record that *spontaneous* evolution had taken place. The presence of the arm, therefore, was no obstacle to *artificial* expulsion. There were no facts which would go to show that the shoulder and chest could be raised from their present situation after the removal of the arm. No room, therefore, would be gained by its removal. There was another motive for not removing it. It was believed that its presence, just where it was, was an advantage, rather than an obstacle to the evolution. It constituted a fixed point, upon which were ultimately to be received the uterine effort which might still be exerted, and especially the artificial exertions which were about to be made. If now the arm were removed, and the shoulder should cease to be fixed, or that part of the trunk which was in contact with the pelvis at its anterior part, and still the uterus should refuse to allow any portions of the protruded child to re-enter it, a highly probable event from its extreme irritability, there would be, in the first place, a diminished effect during attempts at extraction from a yielding of the trunk at its upper extremity, and if excessive force were used to obviate this, there was a hazard incurred of rupturing the uterus. As there appeared, therefore, nothing to be gained by removing the arm, it was left untouched, and the possibility of danger was an additional argument against removing it. Some support for the practice, founded on these reasonings, may be found in its success in the preceding case.

4. The place at which the crotchet was applied in this case, was neither a matter of necessity nor accident. It was selected because it indicated by the changes it had undergone during the latter periods of the labour, that it was advancing under the influence of the uterine efforts, or with the progress of the child. It was not the lowest part of the trunk which might have been reached with the instrument, but indicated distinctly that part of the trunk, the descent of which was essential to the ac-

complishment of the artificial expulsion. That it was well selected is proved by the ease with which the delivery was accomplished. It was not however, as low, or as near the pelvis of the fœtus as that recommended by Dr. Douglas.

5. It was important to ascertain the precise extent of the injury the child had suffered from the application of the instrument. The external injury was very trifling. On farther examination it was found that the integuments had been raised to the extent of an inch or more round the spot occupied by the instrument. The cavities of the thorax and abdomen were uninjured. The external wound did not penetrate them. The separation of the skin from the parts beneath, may have been owing to the relaxed state into which it fell after death took place; or it may have been produced by the increased effort made with the instrument at a moment when the situation of the patient seemed so desperate, as to authorize a degree of force, which under more favourable circumstances would have neither been necessary, nor justifiable. All danger of external injury might be avoided by using an instrument shaped somewhat differently from the crotchet; one, the curve of which is larger, for instance, and the edges perfectly blunt. Such an instrument might be placed over the pelvis for instance, if the position allowed it, and thus facilitate the labour without local injury.

6. In a note to the 330 page of Professor James' valuable edition of Burns' Principles of Midwifery, the circumstances essential to the process of spontaneous evolution are adverted to. This note is copied from the edition of Burns, published by Dr. Chapman. 'To warrant such an expectation' (of the evolution,) says Dr. C. 'it must clearly appear that the uterine action, instead of operating on the presenting part, fixing it more closely in the pelvis, has the contrary effect of displacing it, and gradually bringing it out of the pelvis. But, if we are convinced after a careful examination that there is no tendency to *spontaneous evolution*, we should proceed to turn the child, as in proportion to the delay of the operation is commonly the hazard attending it.' This extract is not made for the purpose of correcting the explanation it gives of the process of the evolution, for this has been abundantly done by Douglas, Gooch, Kelly and Bigelow. It has been distinctly shown in the communications of these writers, and by the preceding case, that the evolution is to be most surely expected, when the uterine action does operate on the presenting part, in the language of the note, and fixes it most closely on that part of the pelvis to which it is directed, instead of the con-

trary, as the note asserts. We are not therefore to wait for the retrocession of the presenting part, as a necessary preliminary to the evolution, for it enters into no part nor period of the matter. We are to look for the process when the arm is most protruded. The particular object in making the extract was to notice the practical directions in the close, on the subject of turning. From a misconception of the real process of spontaneous evolution, the operation of turning has a place or period assigned to it in the arm presentation, to which it should by no means be referred, viz. 'if we are convinced after a careful examination that there is no tendency to *spontaneous evolution*.' Now the real object of turning is to do away the necessity for the evolution, to shorten the labour, and to save the life of the child. It is therefore to be attempted as early in the case as possible; before the uterine efforts have so disposed of the arm and trunk, as to make evolution probable, but turning absolutely impossible.

Cases illustrative of the medical virtues of Prussic Acid, with preliminary remarks. By JONATHAN A. ALLEN, M.D. Lecturer on Chemistry in Middlebury College.

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WHEN a new remedy is introduced into the practise of medicine, the faculty have usually been divided in respect to its virtue. The advocates for the new remedy generally, elated by a few favourable cases, attach more virtues to it than it really possesses, even if it eventually be found to be a powerful and valuable medicine; while on the contrary, those who deny its medical efficacy commonly err in the opposite extreme, by rejecting it altogether, or else denouncing it as poisonous and dangerous.

Probably this inconvenience might in a measure be removed were the value of medicine properly appreciated. It is an undeniable and lamentable fact that physicians as well as the people, generally attach more efficacy to medicine than it really possesses. To the efficacy of medicine notwithstanding our daily experience shows the contrary, we are apt to ascribe infallibility. We laugh at the catholicon of Paracelsus and seek with unblushing ardour some panacea.

The province of medicine, like all created objects has its limits. To expect any article always to accomplish the desired

effect is vain. All that can reasonably be expected from any substance, is that it will, properly administered, usually afford relief. By circumscribing our expectations within their proper limits much unpleasant feeling and disappointment may be avoided. Dr. Heberden appears to have been a physician of this character.

It is well known to the medical practitioner that there are many circumstantial causes which essentially influence the operation of remedial agents. The constitution, state of the system, with many other collateral circumstances, should always be taken into consideration. Many medicines require to have their properties modified or their operation assisted by suitable adjuvants. Hence the impropriety in most cases of relying on the efficacy of any one medicine, without due attention to collateral circumstances.

These remarks have been premised, because they appear to be particularly applicable to the use of Prussic Acid. That this substance possesses active properties is unquestionable, and that when properly used it has effected salutary results, is equally certain. To say that it has failed, is saying nothing more than what can be said of every article of the *materia medica*. To ensure the success of the acid, it is obvious, that attention must be paid to the vascular system, the *primæ viæ*, &c.

The following cases in which the acid was used are introduced, not on account of their affording any thing new on the medical virtues of it, but in confirmation of the opinions of Drs. Oliver, Granville, and Majendie.

Miss Salisbury, with symptoms of incipient tubercular phthisis attended with an almost incessant dry cough, took four drops of the acid diluted with pure water, which produced such an immediate cessation of the cough, that notwithstanding her breathing became easier, and the pain in the side in some measure abated, she durst not take any more till she had further directions. She was restricted to a vegetable diet, directed to keep a moderate and constant irritation on the chest, and to use laxatives occasionally. In about six months, her health was restored. The quantity of acid which she took was three ounces and a half. She found, if at any time the acid was omitted, for a day or two, the cough and other unpleasant symptoms invariably return.

In three cases of tubercular phthisis attended with purulent expectoration, it afforded temporary relief but no benefit which was permanent.

In three cases of chronic inflammation of the bronchia, it was found serviceable. In no instance, within my observation,

has it failed in this complaint when given previous to ulceration.

In one case of hemoptysis with equivocal symptoms of some obstruction of the circulation through the heart, it did no good. It was also useless in one case of simple hemoptysis. It afforded relief in a case of chronic inflammation of the brain.

In several cases of ordinary catarrh attended with a dry hard cough, it gave relief.

I have seen no permanent evil resulting from its use. In one case the patient was directed to commence with two drops three times a day and to increase one daily to seven drops, but being anxious to obtain relief, at the third dose, he took seven drops, which induced such an exhaustion that he fell from his chair to the floor. By the use of cordials and stimulants, he recovered without sustaining any lasting injury. A young lady who had gradually increased the quantity to fifteen drops at a time, felt immediately on taking the acid, such exhaustion and giddiness that she was obliged to retire to the bed, but in a short time recovered from her depression. On another lady, a few drops produced such a propensity to sleep, that it became irresistible, and she fell asleep in her chair, in about fifteen minutes from taking the medicine. The young gentlemen who read medicine with me the past season, gave three drops of the recently manufactured acid to a cat. The animal soon became unable to stand,—they then gave her a quantity of æther vit. which recruited her so that she made her escape. These are the only inconveniences which have resulted from the use of the acid within my observation.

The acid which I have used has been prepared according to Scheele's method. Particular attention has been paid to have the ingredients from which it was to be prepared of good quality. In no instance have I discovered that uncertainty to attend its strength, when properly manufactured, that some state to have witnessed; and during the past season I have manufactured several pounds. What I have used in my own practice has usually been administered in doses from two to four drops, diluted with pure water, three times a day. Directions were at the same time given, to increase a drop daily till some effect should be produced, and if any benefit should be derived, to continue the medicine, but not to increase the quantity, unless the system become so habituated to its use as to render it necessary.

In giving the acid, I have known several instances in which it was improperly used. One physician informed me that he began with a teaspoonful at a time, and that it operated 'like

a charm:—‘Completely cured his patient at the first or second dose.’ If the acid had been of the ordinary strength there is no doubt in determining what would have been the event.

On the whole, if the prussic acid be *properly manufactured* and *properly administered*, there is but little doubt that it will answer reasonable expectations. It has proved useful in many cases and why will it not in others?

On the Use of Lavemens and Leeches.

ENEMATA.

THE rectum and colon to which glysters are applied, present a very extensive surface, endued with no inconsiderable share of sensibility, being plentifully furnished with nerves, blood-vessels, absorbents, and exhalents. In this respect, it is true, that their surface falls far short of the stomach and small intestines, where the sensibility is exquisite, and the play of sympathetic associations most extensive. Yet the portion of bowel concerned in glysters is lined with a membrane that has considerable sympathetic connexion with the other great organs of the body, and may therefore be made the medium of much medicinal agency on the constitution. Every one knows that where deglutition has been impeded, the absorption from this intestine alone has long sustained the vital actions, though absorption is probably one of its weakest powers. In general the quantum of active remedies injected into the colon should be double or treble that introduced by the stomach.

The common effect of all kinds of enemata are the evacuations of the lower bowels. Even water injected by the anus excites the action of the great intestines to an expulsion of their contents. But, when medicinal agents are added to this simple menstruum, another, or ulterior effect is produced besides the evacuation of the bowel. Suppose, for instance, an enema, containing infusion of senna, rhubarb, jalap, or colocynth, or solutions of the neutral salts, be thrown up, and allowed to remain for some time in the colon. An excitement, more or less powerful, is produced throughout the mucous membrane of the gut. The vital properties of this membrane are developed—the blood flows in greater quantity, and with greater force into the capillaries of its texture, which become swelled, reddened, hotter, and more sensible—in short, a determination of blood and nervous excitement is made, *pro tempore*, to this portion of the primæ

viæ, which becomes a kind of centre of vital action for the time. Next comes on some degree of pain, and colicky contractions, followed, more or less quickly, not only by a detrusion of the contents of the small intestines into the large, but of the contents of these last also, together with the additional secretions poured out from the mucous membrane of the bowels during this artificial excitation.

This process may be very advantageously employed by the physician, in remedying or mitigating many troublesome affections. In constipation, and all the numerous ills thereon dependent, an excellent auxiliary, if not a principal remedy, is to be found in the regular use of aperient lavemens. In spasmodic dyspnœa, in head-aches, in gastrodynia, and various other cases, the fluxionary movement which is thus determined to the lower portion of the alimentary canal, becomes highly beneficial. In a case of violent colic with vomiting, M. Barbier saw instant relief produced by throwing up an injection containing the infusion of a drachm of colocynth. To females who have weaned their children, gently purgative injections are of the greatest service in preventing the ill effects arising from the suppression of the lacteal secretion. Accoucheurs know well the power of stimulating injections, where the uterus is torpid, in recalling its energies and renewing its contractile efforts.

Acrid purgative enemata have always been found useful in apoplexy, paralysis, and colica pictonum. It need hardly be said that this class of enemata are detrimental where any irritation or inflammation exists in the mucous membrane of the lower bowels in particular.

Tonic and Astringent Lavemens have been often employed, especially on the Continent, in chronic dysenteries and diarrhœas, in passive uterine discharges, incontinence of urine, chronic blennorrhagies, &c. The cinchona is often successfully administered in this way, when it cannot be taken by the mouth.

What our continental brethren term '*exciting glysters*,' are generally composed of infusions of wormwood, chamomile, horehound, sage, rosemary, baum, wild valerian, anise seed, fennel, juniper berries, turpentine, assafœtida, &c. &c.

These stimulating and aromatic substances first produce an excitation of the intestinal mucous membrane, which is soon communicated to the whole nervous and vascular systems, producing an increased activity of the secretions and excretions. These agents, therefore, might be turned to much use, were the prejudices against the process obliterated, as they ultimately must be. Hoffman (*De Clysterum usu Medico*) recommends the above class of lavemens in many chronic diseases accom-

panied with debility, flabbiness of the muscles, paleness of the skin, and general want of energy in the system. But it is in colicky affections, attended with distressing flatulencies, atony of the intestines, and fecal accumulations, that M. Barbier particularly recommends these stimulating and aromatic injections, to which may be added cathartic ingredients occasionally, as solutions of Epsom salts, aloes, or infusions of senna. We have ourselves seen great advantage from injections of this description, in the troublesome complaints abovementioned, to which sedentary females are peculiarly prone. This class of lavemens ought to be prohibited, of course, in all cases where there is febrile heat, inflammatory pain, or any increased excitement of the system.

More diffusible stimuli than the above, to wit, port wine, and even alcohol, have been used in lavemens. It is a curious fact that inebriety more quickly results from vinous or spirituous glysters than from analogous potations taken into the stomach.

Narcotic and Anodyne Glysters are prepared from poppy heads, opium, hyoscyamus, &c. These exert a powerful influence, not only on the great intestines, but on the stomach and the whole system. In this way they allay pain without so much deranging the stomach as when they are taken by the mouth. In the pains attending nephritic and calculous complaints, we have a valuable resource in anodyne lavemens internally, and opiate fomentations to the region of the bladder, perineum, and loins. In these cases from 50 to 100 drops of laudanum in three or four ounces of starch, should be thrown up the rectum, the patient keeping quiet in bed for some time afterwards, to prevent its coming away. At the same time, a decoction of poppy-heads, to which an ounce of laudanum is added, may be applied to the pelvic region by means of flannels, in the way of a fomentation. The various cases to which anodyne injections are applicable, will easily suggest themselves to the intelligent practitioner.

What are termed, on the Continent, *laxative and emollient lavemens*, are those prepared from laxative, mucilaginous, farinaceous, oily, and gelatinous substances, used by themselves, or as vehicles for other medicinal agents, as opiates, cathartics, stimulants, &c. The substances most commonly employed for the preparation of this class of injections, on the Continent, are manna, cassia fistularis, sweet oil, leaves and roots of marsh mallows, violets, linseed, barley, starch, milk, weak broth, hartshorn jelly, &c. These vehicles are often very useful where stronger medicinals are combined, the irritating effects of the latter being thereby counteracted. But the habit of using

injections of this class induces an atonic state of the bowels and ultimately of the whole system; hence they are improper in relaxed fibre, chronic debility, and other states of asthenia. They are, on this account, however, of great service in the opposite kinds of maladies, namely, those attended with febrile movements, and tense fibre, as in fevers of excitement, chronic phlegmasiæ of the serous membranes, or of the parenchymatous structure of organs, rheumatism, and many spasmodic affections.

Cold Lavemens are of great service in many complaints, particularly in uterine hæmorrhage and painful hæmorrhoids. In the latter complaint particularly, we know, from some experience, that lavemens of *cold water*, together with exercise on horse and foot, and regulation of the bowels by small quantities of the blue pill with supertartrite of potash, sulphur, and honey, are the most effective items in the *methodus medendi*. All acknowledge the importance of assafoetida, turpentine, and other injections in cases of worms. A few observations on the mode of using injections shall terminate this part of the subject. We have found no instrument so good as the common syringe with the crooked tube, so as to be used by the patient himself. In cases of common torpor of the bowels, either as a substitute or auxiliary to internal medicines, a pint of warm water, in which is dissolved a little yellow soap, will generally be sufficient to bring away a stool. We do not think it necessary to keep it in more than two or three minutes, if so long. The great object is, by the mechanical distention of the rectum and colon, to excite the action of their contractile fibres, while the current of the fluid, passing off, carries with it whatever *feces* may be lodging in the lower portion of the canal. If the fluid is allowed to remain longer than a few minutes, the *conatus ejiciendi* generally goes off, and the water is absorbed, without inducing a motion. But where it is necessary to combine salts, or other aperient medicine with the water, then we consider it best to take the enema while lying on the bed, and to keep it in half an hour or more, in order that the medicines may produce their effect on the mucous membrane of the bowels, and increase their secretions, before passing off.

Leeching. Before closing this article, we shall introduce a few observations relative to local blood-letting by means of leeches. These useful animals were familiar to the ancients, and from their avidity for blood, were denominated *Sanguisugæ*. Pliny informs us that elephants, who happened to swallow them, were cruelly tormented in consequence, and the human species has not escaped their ravages in this way, as has been proved on several occasions. We shall pass over the natural history

of the officinal leech. It is difficult to say on what these creatures live, except it is the water itself; for their sanguisuction appears an act of unparalleled gluttony, which they carry to such an excess as destroys them, unless they are forcibly disgorged. It is curious that if there be too many of them in a vessel, in proportion to the quantity of water, the stronger will destroy the weaker, and devour them for sustenance. The more water there is about leeches the better they are preserved. One hundred leeches should have at least three quarts of water. It should be changed twice a week in summer, and once a week in winter. In very hot weather it must be changed every two days. Leeches ought also to be washed occasionally, to cleanse them of the mucous and excrementitious substances which adhere to them. By putting them on a sieve, fresh water may be poured over them till they are clean; and if this will not do, they must be cleaned individually with the hand. The vessels in which they are kept should be very carefully cleansed, and exposed for some time to the pure air to dissipate any disagreeable odour which is prejudicial to the leeches. Dead individuals ought to be immediately removed, otherwise they corrupt the water. The vessels in which leeches are kept, should not be exposed in windows to the rays of the sun. The cooler they are kept the better, provided it does not approach the freezing point. When changed, water of the same temperature is to be used. Nothing is so destructive to leeches as vicissitudes of temperature in the fluid they inhabit. It is a curious fact, that these animals have been frozen for a month together, and gradually thawed, with preservation of life. When this accident happens, therefore, they are not to be thrown away.

In order that leeches may bite readily and suck well, they should be made to *fast* for a few hours before they are applied—that is, they should be taken out of the water, and put into a cup, tied over with linen, for four or five hours in winter, and three or four in summer. They are then to be put into a dry and fine napkin, and gently rubbed, which irritates them, and makes them bite keener. If it be winter, they are the better to be breathed upon, for a minute or two, before application, the warmth of the breath making them more lively; or the vessel in which they are kept may be placed near a fire for a short time, so as to raise the temperature of the water a little, a great degree of cold rendering them torpid.

The number of leeches to be applied must vary according to the exigency of the case, and the age of the subject. To an infant of very tender age, it is not quite safe to apply more

than one, two, or three. As years advance the number increases to 24 or 30. We are rarely authorized to exceed this at one application. Some of the Broussaian school, however, have applied as many as 250 in 24 hours to one patient. *Several hundred thousand* leeches were employed in the Parisian hospitals alone, in the year 1819.

There is no part of the body, almost, to which leeches may not be applied. To the anus and ostium vaginae they are very seldom applied in this country, but very often on the Continent. The best rule is, to apply the leeches as nearly as possible to the seat of inflammation or pain. A part to which leeches are to be applied, should be carefully deprived of hair, which greatly obstructs their operations. The part also should be wet with a little milk, or sugar and water, which facilitates the biting, though it is much neglected in this country, where the management of leeching is not nearly so well understood as in some other countries. When they ramble about much, and are not inclined to bite, they must be put into a wine glass, and the vessel reversed on the part. By this means they will generally be made to take in a little time. When they are fixed, they should be kept perfectly quiet, and covered with a fine napkin, over which a piece of flannel is to be thrown, in order to defend the patient from cold, especially if the application be to the chest or abdomen for internal inflammation. Leeches generally require the space of an hour to fill themselves completely, when they fall off, and usually forfeit their existence as the price of their gluttony. Some of these animals go to sleep when they are full, and yet keep hold of the part. When this is the case, the edges of their lips are to be raised with the point of a pin, and they then fall off immediately. Some people cut off the tails of leeches, and allow the blood to run off there. This is a useless proceeding; for, in three cases out of four the leech lets go its hold when cut, and if it does not, the bite would bleed just as much as the wounded leech.

If by causing the leech to vomit up its repast by means of vinegar or salt, its life can be preserved, so much the better—in this country, where leeches are scarce and dear. On the Continent they seldom take this trouble. It is rare that we are anxious to stop the hemorrhage from leech-bites. On the contrary, we are generally anxious to promote it, which may be done by sponging the part frequently with warm water. The sponge or towel should not be *rubbed* on the bites, as the lips of the wounds become everted and painful by this means. In the intervals of sponging, the bites should be covered with a soft napkin till it becomes soaked with blood, when it is to be remov-

ed, and after sponging replaced by another. When leeches are put to the anus, pudendum muliebre, or other part where warm water can be applied, then the hip-bath or semicupium is to be recommended.

Among the accidents attending leeches is the misfortune of swallowing them, as happened to some of the French soldiers; for example, in Egypt. If they adhere to the fauces, or where they are within reach, they should be seized by the forceps and extracted. If they are beyond reach, salt water, or vinegar and water should be swallowed, and after some time, an emetic administered. If they insinuate themselves into the rectum or vagina, then injections of the above description should be thrown up.

Sometimes an excessive pain and irritation accompany, but rarely succeed the leech-bites, owing to idiosyncrasy of constitution. Nothing can be done in such cases but apply warm anodyne applications, if the pain continues. After a considerable bleeding by leeches, especially if the patient does not keep quiet and horizontal for some time, there is occasionally faintness, as after venesection. It only requires quietude, some light restorative, and the recumbent position.

It is a curious fact, which is worth attending to, that if food be taken soon after a leeching to any extent, and before the equilibrium of the blood is, as it were, reposed, a well-marked indigestion ensues, manifested by paleness of the face, weakness, anxiety, vertigo, sickness at stomach, and sometimes a diarrhoea;—symptoms which go off in 24 hours, if not imprudently kept up by too much food.

Many instances of obstinate, and a few of fatal, hæmorrhage have occurred after leeching. When the ordinary means of restraining the flow of blood fail, and danger be apprehended, especially in the case of infants, the actual cautery should be had recourse to—a hot knitting needle or probe will answer the purpose very well.

It appears to us that, on the Continent, especially in France, local bleeding, by means of leeches, is too much trusted to, where general blood-letting ought to precede or accompany it; while in England, phlebotomy is too exclusively employed, without the assistance of leeching. We are of opinion that in all inflammatory affections of the cranial, thoracic, abdominal, or pelvic viscera, general blood-letting should first break the force of the disease, while leeching or cupping should be called in as an auxiliary, and to save profuse effusion of blood from the general system. In all purely local inflammations, excepting of the skin itself, as in some kinds of erysipelas, leeching is

the principal measure. Some kinds of ocular phlogosis, however require general bleeding, to save the structure of so delicate an organ. Leeching principally affects the capillary system of vessels, and is not of sufficiently quick operation where a vital viscus or important internal structure is the seat of inflammation. Yet in peritoneal and pleuritic phlogosis leeches come so near the inflamed part, that they are of essential service as auxiliaries to general blood-letting and other depletory measures.

In all those cases of local plethora or congestion short of inflammation, so commonly attendant on organic affections, especially of the heart or large vessels, leeching stands pre-eminently useful. These local congestions are mostly conspicuous about the head, threatening or producing apoplexy; and leeching becomes an important preventive check to this formidable event. We need not dilate on the paramount efficacy of leeching in those local inflammations of the subcutaneous tissues, and of the joints, whether arising from constitutional diathesis, accidental violence, or surgical operations. These are sufficiently appreciated in this country by every surgeon.

Local bleeding, by means of leeches or scarificators, is peculiarly useful in persons of delicate constitutions, in infants, females, and old people, where general blood-letting may not be deemed necessary.

In producing what is termed a *derivation* of blood from one part to another, there is something in leeching which seems to unite the advantages of general blood-letting and blistering, to a certain extent. The blood drawn by a considerable number of leeches affects the whole vascular system, while the irritation of the bites keeps up a determination to the part itself.

Here we rest for the present. To those who may consider that we have been too minute on such a trifling topic as that of leeching, we offer the following sentiment of Merat:—"Ces precautions que nous avons détaillées avec soin ne paraîtront minutieuses qu'à ceux qui ne savent point que tout est important en médecine lors qu'il s'agit de soulager."

Med-Chir. Jour. and Rev.

REVIEW.

ARTICLE I.

An Inquiry into the Nature and Treatment of Gravel, Calculus, and other Diseases connected with a Deranged operation of the Urinary Organs. By William Prout, M.D. F.R.S. London, 1821. pp. 227.

IN a former Number of the Journal we endeavoured to give an analysis of Dr. Marcet's work on Urinary Calculi. We now present to our readers a notice of a work equally valuable, both for the additional information on the nature of these bodies, and the modes of treating the diseases which they produce. Dr. Prout has long prosecuted this subject, and made some important chemical discoveries during his investigations. The modes of treating the diseases which result from the presence of or tendency to calculi, are to be improved only by acquiring distinct ideas of the changes in the urine of which they are the consequences; and this knowledge can be obtained in no other way, than observing the phenomena exhibited by this fluid, both in a healthy and diseased state.

In the introduction, Dr. Prout takes a view of the principles contained in healthy urine; he compares its ingredients with those of the blood, and states the results of the chemical changes which it undergoes when diseased. We shall not follow the author in his details of all the principles found in the urine, although these details contain many interesting observations. Of the lithic or uric acid he remarks, that in a pathological point of view, it is of more importance than any other principle of the urine; and he is induced, therefore, to enter rather minutely into its history under the two following heads; *a.* its mode of existence in healthy urine; *b.* the modifications which it is capable of undergoing. Under the first of these heads, the author has detailed some facts and experiments which have led to the conclusion, that this acid does not exist in a pure and uncombined form in healthy urine, but is always united with ammonia, forming *lithate* or *urate* of ammonia. Under the second

head we find described the changes which lithic acid is capable of undergoing by the operation of various agents.

‘When nitric acid, diluted with about an equal bulk of water, is poured upon pure lithic acid, and a moderate heat is applied, an effervescence takes place, and the lithic acid is dissolved. If we concentrate this solution by a gentle evaporation, we obtain transparent colourless crystals, which have been found to constitute a peculiar acid, and have been hence named by M. Brugnatelli, who first described them, *erythric acid*.* If into a strong solution of these crystals in water, whilst boiling hot, we carefully drop pure ammonia, the solution acquires a beautiful purple colour, and crystals of *purpurate of ammonia* speedily begin to form and subside. If these crystals are treated by means of potash and sulphuric acid, in a manner formerly described by me,† pure *purpuric acid* is obtained in the form of a yellowish or cream-coloured powder. Such is a part of the series of changes which lithic acid is capable of undergoing, and apparently does undergo, in the human body in different diseases, either by the action of the kidney, or the natural operation of the various principles existing in the urine upon one another, as we shall now attempt to explain.

‘The amorphous, or uncrystallized, sediments, usually denominated *pink* and *lateritious* sediments, and supposed by Prout to constitute a peculiar acid, which he named the *rosacic*, have been long known. These I find, by well-known methods, to consist essentially of the *lithate of ammonia*, and sometimes of the *lithate of soda*. They owe their colour partly to the colouring matter of the urine, to be described hereafter, and partly (in some instances apparently almost entirely) to the *purpurates of the same bases*.’ p. 15, 16.

The following extract will be sufficient to show the manner in which it is supposed by Dr. Prout the pink amorphous sediments are formed.

‘I have shown elsewhere,‡ that the pink and lateritious sediments occasionally contain nitric acid in some peculiar state of combination. Now the purpuric acid, or rather the purpurate of ammonia, is only lithic acid modified by the action of the nitric acid. If, therefore, nitric acid and lithic acid exist in the urine together, it is exceedingly probable, or rather certain, that at the temperature of the human body, a portion of the lithic acid will be acted on by the nitric acid, and converted into *purpurate of ammonia*. These facts, then, especially when taken into account with the absolute identity of tint, are, I think, sufficient to convince every impartial reader that the pink amorphous sediments owe their colour chiefly to the alkaline purpurates, though from the circumstance of their being merely as

* Giornale di Fisica, 1818.

† Philos. Trans. 1818, p. 420.

‡ Med. Chirurg. Trans. ix. p. 481.

it were dyed with the purpurates, these cannot be separated, and thus actually be demonstrated to be present.

‘In some forms of disease the urine does really contain an uncombined acid, as will be pointed out hereafter; and in this case the lithate of ammonia is decomposed, and the lithic acid deposited in a crystalline form, and nearly pure; thus constituting the disease called *gravel*.

‘The lithic acid and its compounds may be easily detected by the above singular properties. When they exist abundantly in the urine, this fluid is almost invariably of a deep colour; and if at the same time a free acid be present, the urine is for the most part unusually transparent, and free from mucus.’ p. 17, 18.

Oxalic acid is formed neither in the blood nor in healthy urine.

‘It is secreted in some forms of disease.’

The following valuable observations close the introduction.

‘From the preceding sketch, we find that the most striking difference between the blood and the urine, is the complicated nature of the latter. The astonishing variety of substances formed from such a paucity of materials, naturally leads us to reflect upon the vast extent of the operation of the kidneys. On considering, however, a little more attentively the nature of the operations of these organs, we shall find, as Berzelius has justly remarked, that *acidification* constitutes the chief feature in them. Thus, the sulphur and phosphorus of the blood are converted by the kidneys into sulphuric and phosphoric acids: a new acid, the lithic, is generated altogether, &c. Such, then, evidently is the natural and healthy operation of these glands. We find, however, that in certain forms of disease, this acidifying tendency is carried to excess, and nitric acid, oxalic acid, &c. are produced. On the other hand, it is occasionally suspended, diminished, or altogether subverted; and unchanged blood, or albuminous matter; neutral substances, as urea, or sugar; or even alkaline substances, as ammonia, lime, and magnesia, are separated in abundance; and the phosphorus and sulphur at the same time pass through the kidneys without being acidified. With respect to the character of the diseases attending these states of the urine, it will be generally found, that when acids are generated in excess, the urine is commonly small in quantity, and high coloured, and the disease inflammatory: when neutral or alkaline substances, the urine, on the contrary, is generally pale coloured, and larger in quantity; and the diseases are those of irritation and debility.

‘With respect to the mode in which all the different substances existing in the urine are naturally combined, it is impossible to state any thing with certainty, except generally that the several acids divide the alkaline bases among themselves in the order of their respective affinities and quantities. The greatest difficulty which occurs among the salts, is with respect to the phosphoric and lithic acids and their compounds. There can be no doubt, however, as

formerly stated, that the whole of both of these acids are in combination with some base or bases ; otherwise the lithic acid could not be retained in solution. Yet the solution of these compounds reddens litmus paper very strongly ; showing that the acids, though in a state of combination, are not in a state of *neutralization* (two very different things, though frequently confounded with each other) ; and we can only explain this by supposing that the affinity of the elements of the different salts are so balanced, that the ammonia of the superlithate of ammonia, for example, is held too firmly in combination by its acid to be separated by the phosphoric acid of the super-phosphates.' p. 30—32.

The body of the work is divided into two parts. In the first *section* the author treats of the diseases in which principles soluble in the urine are morbidly deranged in quantity or quality. This section is subdivided into three chapters ; the first treating of the diseases in which the presence of an albuminous principle is the characteristic symptom ; the second, of diseases in which an excess of urea is the characteristic symptom ; and the third, of diabetes.

In albuminous urine there is a peculiar condition in which it is found to contain one or more principles resembling those found in chyle. In most cases it is in small proportion and is held in solution, but in a few it exists in very large proportion, and undergoes a kind of spontaneous coagulation. In all these cases the urine is pale-coloured, of low specific gravity, sometimes opalescent, and deposits flakes of albuminous matter when exposed to heat. It is prone to decomposition, particularly if passed some time after a full meal. This affection of the urine exists in every possible degree from barely perceptible traces of an albuminous principle, to perfect chyle or blood. Dr. Prout remarks, that urine rendered albuminous by blood may be readily distinguished from the albuminous urine in question, by the presence of the red particles of the blood which after a time subside to the bottom of the vessel. 'Bloody urine is also from the same cause, more or less of a dark colour.' The mucus sometimes found in the urine, and derived as Dr. Prout supposes from irritation or disease of the prostate gland, is likewise susceptible of coagulation by heat, but it may be distinguished from albumen by its solubility in acetic acid.

'The symptoms usually attending this albuminous condition of the urine are those of irritability. In slighter cases there is generally a frequent desire to pass water, and for the most part decided diuresis. I have never known albuminous urine attended by positive pain, though the patient, for the most part, complains of certain indescribable sensations, which render him conscious that all is not right.

In severe cases, where the drainage from the system is greater than natural, there are, as might be expected, an inordinate craving for food, and other symptoms somewhat resembling diabetes.' p. 39.

With regard to the causes of this condition of the urine, and the degree of danger to the patient as well as the principles of cure, the author observes:—

'An albuminous condition of the urine appears to be capable of being excited by a variety of causes—as a long course of mercury, stimulating diuretics, violent passions of the mind, exposure to cold, &c. In many instances, however, I have not been able to trace it to any particular cause.

'With respect to its tendency and danger, we have seen that slighter degrees of it, in which the kidney may be considered as simply *passive*, can exist for years, without apparently producing any serious effects upon the constitution. I believe, also, that this state of the urine frequently exists when it is not suspected; and that it may occasionally occur from some of the causes above-mentioned, even in the most healthy. The danger of the affection must of course increase with its permanency and degree; but it may be remarked that even in the extraordinary case above related, the constitutional symptoms were by no means severe. I do not wish to be understood to mean that it is not attended with danger. It is always undoubtedly an unpleasant symptom; and when permanent and excessive, must necessarily indicate some great derangement of the economy.

'It remains for me, in the last place, to make a few remarks upon the general nature and mode of cure of this affection of the urine.

'Dr. Blackall has attempted to show that when the urine is albuminous in dropsy, the use of blood-letting in general is indicated.* I confess that I have not had sufficient experience in albuminous dropsical urine to enable me to give a decided opinion on this point. I believe, however, that the presence of albumen in the urine is, in some instances, the first step towards the two conditions of the urine treated of in the next chapters; and we know that in the second of these, namely, diabetes, blood-letting occasionally has been practised with advantage: so far, therefore, the analogy appears in favour of Dr. B.'s opinion. On the other hand, from the irritable state of the system, and especially of the kidneys, which sometimes attends the separation of albuminous urine, the use of sedatives seems to be indicated. This also is precisely analogous to what occurs in the diseases above-mentioned, where opium appears to be one of the most powerful remedies we possess. That opium is really beneficial in some cases where urine is albuminous, I have no doubt:

* The notion that albuminous urine is 'connected with too great action in some part of the system,' seems to have originated with Dr. Wells; yet the remedy he chiefly recommends is the Tinct. Lyttæ. Ubi supra.

there may be cases also in which blood-letting may be useful ; but whether the use of these remedies is equally admissible in all, as, for example, in dropsy, is not equally certain ; and I believe very few would be inclined to recommend the use of opium, or even of blood-letting, in dropsy, upon the mere ground of the urine being albuminous. Upon the whole, then, not only from the above circumstances, but from many others that might be mentioned, I am induced to conclude that an albuminous condition of the urine, taken alone, as a *symptom*, does not, in the present state of our knowledge, indicate the use of any particular remedy or mode of treatment, but that, nevertheless, it is a symptom of which we ought to be always aware, since, taken in conjunction with the others, it may be occasionally useful in directing us to form a more correct judgment of the general nature of the disease.' p. 47—49.

Chapter II. is devoted to the diseases in which there is an excess of urea. The proportion of urea in healthy urine is such that, on the addition of nitric acid, no crystallization takes place till the urine is concentrated by evaporation. But where this principle is much increased, depositions will form independently of concentration. This is always a mark of some derangement in the health, and occasionally appears to be characteristic of certain varieties of disease which have probably been frequently confounded with diabetes. Whenever the specific gravity of the urine is high, e. g. above 1·025 or 1·030, the proportion of urea, in common with the other principles, is larger than natural. But this concentrated state takes place in febrile and other diseases, and is not unfrequently the case with the urine of children. In such cases it is not to be considered as depending upon a disease of the urinary organs, or is not so important as to be considered as characteristic, and as affording a rule of medical practice. Dr. Prout thinks that the diseases of which the excess of urea may be in some degree characteristic, have been confounded with diabetes, particularly that form of it called *insipidus*. The appearances of the urine, and the symptoms in such diseases, are thus described :—

'The average specific gravity of the urine in these complaints seems to be a little above 1·020, and occasionally to vary from 1·015 to nearly 1·030. Most generally it is pale, but occasionally it is high coloured, and exhibits somewhat the appearance of porter, more or less diluted with water ; and this variety in appearance not unfrequently takes place in the urine of the same person. When first voided, it reddens litmus paper. For the most part it is entirely free from sediment, except the mucous cloud of healthy urine ; and the only remarkable property which it appears to possess is that of containing abundance of urea, so that on the addition of nitric acid, crystallization speedily takes place. From the quantity of urea pre-

sent, it is very prone to decomposition, and soon becomes alkaline, especially in warm weather.

‘ There is almost constantly in these diseases, a frequent and irresistible desire of passing water both by night and day. This desire is for the most part evidently excited by actual *diuresis*, or the increased quantity of urine; but frequently it cannot be ascribed to this cause, as the quantity voided at one time is often by no means considerable; though in every instance that has fallen under my observation, the quantity voided during any given time has appeared to be greater than natural. The quantity appears also to be particularly liable to be increased by cold weather, and by all causes producing mental agitation. There is sometimes a sense of weight or dull pain in the back; but this is by no means a constant symptom. There is also occasional irritation about the neck of the bladder, which sometimes extends along the urethra. The functions of the skin appear to be natural; at least in every case which has come under my own observation perspiration has been rather easily induced. The pulse is not affected. There is no remarkable thirst, nor craving for food, except in extreme cases, nor are the functions of the stomach and bowels much deranged: hence for the most part the tongue is clean, and the dejections regular and apparently natural.

‘ In the few cases of this disease which have hitherto fallen under my own immediate observation, the subjects have been middle-aged men, of thin and spare habit, with a sort of hollow-eyed anxiety of expression in their countenance; free from gout and constitutional disease in general, and, as far as could be ascertained, from any organic defect in the urinary organs. In every instance they had been induced to apply for medical advice not so much from the pain, as from the inconvenience, of the disease, and the dread of its ending in something worse: and, what may be worth remarking, in the majority of instances confessed that they had been addicted to masturbation from very early youth.

‘ With respect to the causes of this affection, they are doubtless very various: whatever debilitates the system, and particularly the urinary organs, may give origin to it. Hence it may be induced by all those circumstances which give origin to albuminous urine, diabetes, and the deposition of the phosphates, with which diseases, as we shall find hereafter, it is most intimately connected.

‘ I have had no opportunity of ascertaining the progress of these diseases; but think it extremely probable that, if permitted to proceed, some of them will terminate in diabetes, or in a deposition of the earthy phosphates. There seems, however, to be considerable variety in their symptoms as well as their nature; and I even think it probable that future observations will make us acquainted with many diseases having this symptom of abundance of urea, and those which generally accompany it in common, though differing altogether in their nature in other respects. This want of uniformity in the

nature of the disease of course precludes the idea of any uniform plan of treatment, which must be adapted to circumstances. In every case, however, which has hitherto fallen under my own observation or knowledge, sedatives, and particularly opium, have been the only efficient remedies; and by the judicious use of these, combined with other appropriate medicines, it is probable that in most instances the disease can be suspended, if not removed altogether.' p. 52—55.

Chapter III. treats of diabetes, which the author defines to be a disease in which a saccharine state of the urine is a characteristic symptom. The following is the author's account of the chemical constitution of diabetic urine.

'The urine of diabetes is almost always of a pale straw colour. Its smell is commonly faint and peculiar, sometimes resembling sweet whey or milk. Its taste is always decidedly saccharine in a greater or less degree. Its specific gravity has been stated to vary from 1.020 to 1.050. I have seen it higher than this, but never so low. The quantity of urea is almost always very much diminished, though I have never met with a specimen in which it was entirely absent. It contains, for the most part, little or no lithic acid. The usual saline matters existing in healthy urine are met with in diabetic urine in nearly the same relative proportions, but their absolute quantity is very much diminished. Sometimes diabetic urine contains a little blood;* and not unfrequently albuminous matter analogous to that of the chyle. I have seen it also contain a white milky-like fluid precisely similar to chyle, which slowly subsided to the bottom of the vessel. In this case the vinous fermentative process was induced very rapidly in the urine, the chylous matter apparently acting like yeast.' p. 60, 61.

We shall add to this the condensed statement of Mr. Watt, which Dr. Prout has inserted, of the symptoms which accompany this formidable disease.

'The appetite is usually better than in health. Uneasiness in the stomach after meals; thirst urgent; the mouth dry and parched; tongue white and foul, sometimes unnaturally clean and red; tough disagreeable mucus in the throat; depraved taste; skin dry and unperspirable; considerable emaciation; weariness, and aversion to exercise; loss of strength; pain and weakness in the region of the kidneys; irregular, generally costive state of bowels; some degree of inflammation and uneasiness about the external orifice of the urethra; loss of virility; chilly state of body; cold feet; a tendency to œdema; heat and uneasiness in stomach and bowels; acid eructations; flatulence; eyes muddy and painful; indistinct vision; vertigo; head-ach; dyspnœa on the least exertion; gums spongy and ulcerated; weight about the præcordia; a tendency to sigh;

* See Watt's Cases of Diabetes, p. 47, 74.

listlessness ; mind weak and peevish ; spirits greatly exhausted.”* Pulse variable, but generally marking debility.

‘ Such is the dreadful catalogue of evils which more or less harass the unfortunate victims of this formidable disease. As it proceeds, the debility increases, and some pulmonic symptoms, accompanied by hectic fever, generally make their appearance, which sooner or later prove fatal. Occasionally it terminates in incurable dropsy, and sometimes the patient is cut off suddenly.’ p. 63, 64.

With regard to the treatment of diabetes, Dr. Prout observes, that it may be considered in a two-fold light ; as a simple saccharine condition of the urine, without any increase of quantity, and as complicated with a preternatural flow of that secretion. This distinction, he thinks, is of the utmost importance with reference to the operation of remedies in this affection, all of which have been designed to act, and probably do act primarily, by diminishing the flow of urine, before they induce any favourable change in its quality. Want of attention to this distinction has been the cause of the confusion in the history and treatment of this disease. The remedies which seem most entitled to attention are reduced to three, viz. animal food, blood-letting, and opium. Of the first and second of these, Dr. Prout speaks very doubtfully, and in comparing their effects together, he makes an important remark, that there are stronger grounds for presuming that blood-letting has improved the quality of the urine, than that animal diet has produced this change.

‘ The effects of opium in diabetes have been more clearly and satisfactorily ascertained than those of any other remedy.’ Cases are detailed which confirm us in the conclusion, that opium is to be considered at least as a powerful palliative, if not as a means of radical cure. In the first case the plan was commenced by the administration of ten grains of Dover’s powder twice a day, and gradually augmented to four times the quantity. ‘ Under this plan, the urine decreased in quantity, and became less sweet, and the skin acquired softness and moisture, but as the patient improved slowly, bleeding was directed.’ He was bled in the course of four weeks ; he lost one hundred and ten ounces of blood. Six weeks after, he lost at two bleedings, forty-five ounces of blood, but the symptoms increased. Opium was again administered and gradually increased and at length forty-five grains were taken three times a day. Under this treatment, both the quantity and saccharine taste of the urine diminished. The opium was often reduced in quantity to thirty grains t. d. and then the disease, though not cured, remained stationary.

* On Diabetes, p. 396.

at the commencement of this mode of treatment the specific gravity of the urine was 1·0448. In nine months it had descended to 1·0148, and if an unlucky mistake of taking pil. Hydr. instead of opium, had not occurred, there was a great probability that the patient would have been cured.

In the 2d case, 'the effects of opium were equally striking. The quantity (*of urine*) was at first in a few days lessened several pints; and not only on three occasions of the omission of opium, instantly increased; but, upon the resumption of the medicine, as regularly lessened again.'

The quantity of opium given in this case is not stated. The third case is very similar. The conclusion drawn from these facts is, that although we have no very satisfactory evidence of the power of opium in completely restoring the natural state of the urine, yet we have abundant proofs of its power in effecting changes in it, which appear to be of a curative nature.

The following general observations conclude the consideration of the diseases of the first section.

'On taking a review of the three preceding chapters, we are naturally struck with the obvious analogy that prevails among the diseases treated of. The operations of the kidneys are indeed specifically different in each; being in the first apparently suspended only, in the second inordinately increased, and in the third depraved: but notwithstanding this, the three diseases are more or less accompanied by a similar increased flow of urine and its consequences, and probably gradually run, in some instances, into one another. Hence the symptoms in all are of the same general character, and differ little from one another except in degree. Thus there is the same *hysterical* irritability of the system (if I may be allowed the expression), the same hurried action of the kidney, and pallor urinæ in all; and when the diseases are extreme, the same unnatural craving for food, and other symptoms denoting an extraordinary drainage from the system. The exciting causes are probably of the same general character, and the prognosis upon the whole unfavourable in each: that is to say, the chance of a *permanent cure* is doubtful; though in this respect diabetes obviously far exceeds the others. Lastly, the general principles of cure in each closely resemble one another.'—pp. 77, 78.

The *second section* treats of the diseases of the urine, in which principles insoluble in that secretion are morbidly deranged in quantity of quality. It contains seven chapters.

Of the first and second it will not be necessary to say much, as it contains a description of Urinary Gravel and Calculi; a great portion of which has been already laid before our readers in the analysis of Dr. Marcet's work. There is one general re-

mark, however, which requires to be noticed, and it is this : 'The law, therefore, that a decided deposition of the mixed phosphates is not followed by other depositions, appears to be general. This law is very important in a practical point of view.'

In Chapter III, which is on the Lithic Acid in general, and on the best means of counteracting it, so as to prevent the original formation of calculus, or its recurrence after an operation, many valuable practical facts and observations are detailed. The lithic deposit is considered under two points of view, viz. 1, the amorphous ; 2, the crystallized. The first consists principally of lithate of ammonia. The exciting causes are, 1, simple errors in diet ; 2, unusual or unnatural exercise, either bodily or mental, particularly after eating, and the want of proper exercise at all other times ; 3, debilitating circumstances. With regard to exercise, the observations of the author are so judicious, that we shall extract a portion of them.

'As to exercise, we are taught by nature, in common with all other animals, to remain in a state of rest for some time after meals. This is obviously a wise provision intended to secure a due digestion of our food ; and the infringing of it, as is universally known, cannot happen with impunity. These remarks apply equally to the exercises of the mind.—Who, for example, is fit for study immediately after dinner ? On the contrary, when the food has been duly digested, and the nutritious portion of it has perhaps entered the circulating system in the form of chyle, a certain degree of bodily exercise appears to be necessary to complete its assimilation. Then it is that animals are roused from those slumbers into which they naturally subside after eating, and betake themselves to action : then it is that we feel, if ever we do, a sense of renovation and aptness for muscular exertion : then it is, in short, that we *ought to be active*. Unfortunately, however, for mankind, this impulse for action, though for the most part equally striking as that for rest, is not equally imperious. Hence we are too apt to overlook its nature and object, and regard it as nothing more than a healthy sensation by which we are summoned to that occupation to which inclination or duty prompts us. Thus, instead of being *bodily active*, the studious man regards it as a summons to be *mentally active*, or the indolent man perhaps to merely *sit up and enjoy himself*,—in short, this feeling of renovated energy is used or abused in a thousand ways by different individuals, without their ever dreaming that *bodily exercise, and that alone*, is implied by it. The result is, that imperfect assimilation, and all its consequences, take place ; one of the most constant of which, as before stated, is turbidity of the urine from an excess of lithate of ammonia.'—pp. 117, 118.

On the prognosis, which may be formed from the appearances of the depositions, the author remarks :

‘ With respect to the general prognosis in this class of sediments, it may be stated, that amorphous sediments are of a more formidable character, in proportion as they are whiter, or of a more pure pink colour. When pale coloured, they denote, in general, a tendency to the phosphates; and when of a pink colour, generally some organic, or other deeply seated disease. But in drawing our conclusions, other circumstances must commonly be taken into account, and particularly the more or less constant deposition, and the greater or less quantity, of these sediments. A constant deposition of lithic acid crystals in large quantity will almost certainly, sooner or later, end in the formation of a calculus: the occasional deposition of the sediments in small quantity, is seldom attended by much danger.’—p. 134.

The author then treats of the means by which the lithic acid diathesis may be counteracted.

The first variety of amorphous sediments requires in general merely attention to diet, and the avoiding of those articles of food which are known to disagree with the stomach. By temperance, exercise, and regulating the bowels, this diathesis may most commonly be prevented from producing injurious consequences.

The crystallized sediments or gravel are of more importance, and require a long, continued, and regular system of medical treatment. From what has been previously published on this subject, it is now very generally known that the use of alkalies is in such cases particularly indicated, and that they are to be continued until the necessary change in the appearance of the urine has taken place. It is the opinion of Dr. Prout, however, that the alkalies ought seldom or ever to be given alone; he advises to conjoin them with alteratives and purgatives. ‘ The pil. sub-mur. hydrarg. comp., or a pill, composed of the pil. hydrarg. and antimonial powder, taken at night, and followed up the next morning with a solution of Rochelle salts and carb. of soda in a bitter solution.’

Some judicious directions are given in treating attacks of the gravel. The subject of Chapter 4, is the mulberry and cystic diathesis. The phosphatic diathesis is treated of in the 5th chapter. It is very important, and we shall extract the account of the symptoms which accompany it.

‘ A deposition of the earthy phosphates from the urine has been long observed to be attended by very distressing symptoms, though no one seems to have hitherto generalized them. They consist in great irritability of the system, and, derangement of the chylopoietic viscera in general; such as flatulence and nausea, obstinate costiveness, or peculiarly debilitating diarrhoea, or both frequently alternating; and the stools are extremely unnatural, being either nearly black, or clay-coloured, or sometimes like yeast. These

are always accompanied by more or less of a sensation of pain, uneasiness, or weakness, in the back and loins. There is a sallow, haggard expression of countenance; and as the disease proceeds, symptoms somewhat analogous to those of diabetes, begin to appear, such as great languor and depression of spirits, coldness of the legs, complete anaphrodisia, and other symptoms of extreme debility: and the disease, if not speedily checked, seems capable of ending fatally. The urine in this form of disease is invariably pale coloured, and, upon the whole, voided in greater quantity than natural. Sometimes, (generally, I think, by day), it is voided in very profuse abundance; and in this case is of very low specific gravity; 1.001 or 1.002, for example.* At other times it is voided in less quantity, and its specific gravity is proportionally higher, but it is seldom very high; that is, surpassing 1.025. In the former case it is generally perfectly pellucid and colourless, and deposits no sediment; in the latter, it is sometimes opake when passed, and always after standing for a greater or less time, deposits a most copious precipitate of the mixed phosphates, in the state of an impalpable powder. In all cases the urine is extremely prone to decomposition, becomes alkaline by the evolution of ammonia, and emits a most disgusting smell.'—pp. 152, 153.

The cause of amorphous sediments of the phosphates is referred in the greater proportion of cases to *some injury of the back*. In a few cases the cause is local, and produced by some irritation in the bladder.

'The prognosis in this form of the disease will depend entirely upon its cause, and the length of time it has existed. If the cause be some injury of the spine, the prognosis will, for the most part, be exceedingly unfavourable. If the disease has been induced by local causes, as a calculus in the bladder, or any of the other circumstances mentioned, the prognosis will be more or less favourable, according to the less or greater duration of the diathesis, and its degree.'—p. 157.

The crystallized sediments of phosphates are composed of the triple phosphate of magnesia and ammonia, and they appear in the form of perfectly white shining crystals. The causes may be the same with those which produce the amorphous sediments, or may be a *nervous* state of the system, such as results from distressing passions, and particularly *mental anxiety or fear*. The prognosis, upon the whole, is more favourable than that in the preceding species. The indications of cure in both are two, first to diminish the unnatural irritability of the system;

* This is one of the forms of *diuresis*, in which the *increased* flow of urine is not *constant*, but takes place at certain times only, either spontaneously, or from the slightest exciting causes: so that, upon the whole, the quantity voided is generally greater (often much greater) than natural.

and secondly, to restore the state of general health, and particularly of the urinary organs, by tonic and other appropriate remedies.

‘In severe cases of these affections, especially of the first class, opium, as far as my experience has hitherto extended, is the only remedy that can be employed with any advantage to fulfil the first indication. This must be given in large and repeated doses, such as from gr. i. to gr. v. or more, two or three times a day. Under this plan the more distressing symptoms will commonly be speedily relieved; and now, in conjunction with the opium (in more moderate doses, if the state of the disease will permit) the mineral acids, cinchona, uva ursi, different preparations of iron, and other tonics may be had recourse to; or if the mineral acids should disagree, the citric acid may be taken instead. There may be also applied to the region of the loins, a large pitch, soap, or galbanum plaster, which frequently seems to afford considerable relief to the distressing pain there felt; or if the symptoms are unusually severe, and connected with manifest local injury, setons or issues may be instituted in the back. It was stated that the bowels are very often exceedingly irregular, and difficult to be managed, in this form of disease. Most frequently they are constipated; but purgatives especially of the more active class must be given with the utmost caution. I have seen, for example, the most serious consequences brought on by a small dose of calomel, which by inducing a diarrhoea, and consequent debility, has much aggravated all the symptoms, and endangered the life of the patient. Saline purgatives are also to be avoided; and recourse must be had to small doses of castor oil, or laxative injections. Mercury, if given at all, must be given in the smallest doses, and as an alterative only; but I am doubtful if the use of this remedy is not altogether better omitted till the more distressing symptoms have somewhat yielded, and the patient has recovered a little strength. All remedies that act as diuretics should be carefully avoided, and the patient should be prohibited from drinking too much. Alkaline remedies must be most carefully avoided; their use, in every point of view, is most mischievous in this form of the disease. In less severe cases, and when the constitution is sound, and the strength not remarkably reduced, similar means may be had recourse to, though opium to the above extent is here seldom necessary or proper; in such cases, also, occasional purgatives may be employed with safety and advantage; but even here, those of the milder class should be preferred, and which are not likely to excite the kidneys at the same time. In some of the diseases of children also, in which the triple phosphate in particular, is copiously deposited, repeated purgative doses of calomel and rhubarb are of the utmost advantage. These diseases may be commonly distinguished by the absence of the severe symptoms above-mentioned, and by the high specific gravity of the urine.

‘In mild incipient cases, I have seen the greatest advantage from the combined use of the muriatic acid, hyosciamus, and uva ursi ; conjoined with the use of alterative purgatives.

‘The *diet* in severe cases should be of the mildest and most nutritious kind, and taken in very moderate quantities at a time. From what I have seen, I am certainly inclined to advise an animal diet in preference to an acescent vegetable diet, commonly recommended ; but I wish it to be understood, that no positive directions are given on this point, which I leave to be determined by future observations, or rather, perhaps, by the circumstances of the patient ; for I am disposed to believe, that in all instances, that diet is most proper for a patient, which agrees best with him, and which in many instances can be only known by actual trial ; I may give it, however, as my opinion, that all watery diet, as soups, &c. should be taken very moderately. But these, and every thing else that can be done for a patient in this state, are of very little use, if the *mind* cannot be set at rest. The influence of mental anxiety is really astonishing in this disease ; and absence from care, the exhilarating air of the country, and such exercises as are consistent with the patient’s condition, will, perhaps, more than any thing else, contribute to the cure, particularly in the slighter cases, and when the cause is not local injury.’—pp. 160–163.

The last chapter is devoted to the modes of formation and future increase of calculi ; the symptoms produced by the different varieties in different situations ; and the medical treatment to be adopted when they are lodged in different situations. This chapter contains much valuable matter, which we should be glad to communicate to our readers, but so much room has already been occupied by extracts, that there remains none to spare.

This little work of Dr. Prout contains much new and useful matter, and is an important addition to the stock of knowledge which has been accumulated by the labours of Fourcroy and Vauquelin, Dr. Wollaston, Mr. Brande, Dr. Marcet and others. We hope to see it re-printed in this country, as it is small and consequently not expensive, while it furnishes the physician with a multitude of important hints which may improve his practice in these obstinate diseases.

ARTICLE II.

Medico-Chirurgical Transactions. Vol. XI.—Part II. London, 1821.

THE first article contained in this volume, is on the treatment of bronchocele or goitre by seton, by A. Copland Hutchi-

son, Esq. In the case treated by Mr. H., a long and narrow seton needle, armed with half a skein of silk thread, was passed obliquely through the substance of the thyroid gland, from its left lobe upwards, leaving, as is stated, a space of nearly two inches between the entrance and escape of the instrument.

‘The superior and inferior thyroid arteries, running deep in the gland, close to the trachea, their principal trunks were avoided by pushing the trachea backwards upon the œsophagus during the introduction of the needle, which, as already stated, passed through the body of the tumour, that is, half way between the external integuments and trachea. Notwithstanding the precautionary means adopted, a trifling hemorrhage succeeded the operation, but not such as to occasion anxiety to any surgeon.—A few days after this, a slight degree of erysipelatous inflammation supervened, which was followed by a profuse discharge of a thin acid matter. As soon as the inflammatory action had subsided, the discharge was kept up by occasionally smearing the seton with savin ointment, which supported the necessary stimulus to effect the object in view.

‘A considerable reduction of the tumour having taken place in the immediate neighbourhood of the seton; on the 5th of December, the silk was withdrawn, and a fresh portion introduced in an opposite direction, namely, from the lower part of the right lobe of the gland obliquely, upwards so as to cross the situation or course of the former. The management of the recently introduced seton was precisely similar to that employed in the first, and the discharge continued, with a gradual diminution of this part of the tumour also. During the severe and inclement weather experienced in the following month of February, the poor woman was attacked with fever, and on removing the dressings about that period, the seton was found to have wholly escaped; but it was not deemed necessary to replace it, as the discharge and gradual reduction of the tumour continued to proceed most favourably.

‘A slight oozing of healthy pus, however, continued to exude from the apertures caused by the setons, for nearly a twelve month from the operation; but no other inconvenience arose from that circumstance. The disease is now scarcely perceptible. The patient is perfectly well, and the skin which covered the tumour of its natural colour.’

Mr. Hutchison does not think the operation by seton to be, generally speaking, dangerous, when performed by a judicious surgeon, well acquainted with the anatomy of the parts. But that in delicate and irritable habits, and in what he calls the hard lobulated species, the surgeon should well weigh the necessity of the case before determining upon the operation.

‘There are two states of bronchocele, however, which it is necessary to distinguish in the application of the seton as a curative remedy; namely, the firmly indurated and lobulated species of

tumour, and the more yielding and soft. The first is found more intimately connected by adhesions to the trachea; and in this species it might be more prudent, perhaps, to push the seton needle through a smaller portion of the diseased gland, repeating the operation on other parts of it as circumstances shall afterwards render expedient; though a due degree of caution will probably guard against the danger of inflammatory action being communicated to the mucous membrane of the trachea. But in the softer and more yielding bronchocele, the operator may boldly pass the instrument throughout the substance of the morbid mass, with the most perfect safety, I apprehend. In both cases, however, the inflammatory excitement when deficient, must be maintained by the application of stimulating ointments to the cord, or of other more irritating substances, if necessary.'

Mr. H. in this paper has related a number of cases of bronchocele, all tending to show the practicability and success of the treatment by seton.

Observations on the Scrofulous Inflammation of the Peritoneum occurring in children, and frequently denominated Marasmus.
By George Gregory, M.D.

Dr. Gregory imagines he has been able to distinguish three different states of abdominal disease in children, having as a common character, a general wasting of the body, and slow, remitting fever. In the first form there is merely a disordered action of the intestinal canal independent of any organic derangement. In the second, he supposes that the mucous membrane of the bowels is considerably diseased; becoming, as appears on dissection, ulcerated; also that there is more or less enlargement, with occasional ulceration of the mesenteric glands.

It is, however, the third form of marasmus, to which the remarks of Dr. Gregory are particularly directed in this paper. 'The observations which I have made upon it induce me to think that it is primarily a disease of the peritoneum; and it differs from both the others in the circumstance of its being completely beyond the control of medicine. The symptoms and progress of this disease and the appearances found on dissection, will be noticed presently; but I wish first to explain why it is that in my views of the pathology of marasmus, I have omitted any particular notice of the mesenteric glands. I have done so, not because I distrust the observations of those authors who have spoken of such a disease, but first, because in the various dissections which I have made with the hope of elucidating this subject, I have never once met with any disease of the mesenteric glands which was not complicated with, and probably referable to a diseased state of the mucous or serous membrane of the

abdomen ; and secondly, because in many of those cases which were seen by other practitioners, and denominated diseases of the mesenteric glands, I had an opportunity of proving, by dissection, that those glands were only slightly affected, so as to be scarcely noticed in comparison with the extent of disease present in one or other, or both of those membranes.

‘From the circumstance of the inflammatory affection of the peritoneum to which I now refer, being usually met with in children of a scrofulous habit, and from its going on to the formation of a thick and imperfect kind of pus, I have called it the scrofulous inflammation of the peritoneum, and I now proceed to detail its symptoms and progress.’

The most distinguishing symptom, is from the commencement of the attack, a tenderness of the abdomen, soon followed by occasional lancinating pains. As the disease progresses, this tenderness increases. The attacks of pain occur in paroxysms, which increase, as the complaint advances, in frequency and severity. They do not last long, and as soon as they cease the child becomes lively. The pains are at first confined to a particular part of the abdomen, but soon extend over it. The abdomen is at first swelled, but as the disease progresses the swelling abates.

The pulse, often until a late period of the disease, are frequent, full and strong ; the tongue, for the most part, clean ; appetite irregular, and frequently voracious ; commonly, also, a good deal of thirst. The fecal evacuations are at first green, fetid and slimy, but after the disease has existed for sometime, they are said to consist of a whitish, or whitish brown matter, of the consistence of a thin pudding. They are passed too, without the aid of medicine, in very great quantity, even greatly exceeding the quantity of food taken. This state of the bowels often lasts for six or eight weeks, when diarrhœa comes on, accompanied with petechiæ and soon carries off the child.

The following extract will give the appearances as observed on dissection. ‘On cutting through the parietes of the abdomen, all trace of abdominal cavity will be wanted. The mesentery, bowels, and peritoneum, lining the parietes, will be found united together into one mass. The peritoneum, in all its duplicatures, appears thickened, and on cutting through the diseased mass, very large quantities of scrofulous matter will be found. The mucous membrane of the bowels, particularly the small intestines, appears ulcerated in various parts, and at these points of ulceration the convolutions of the intestines communicate, so that instead of forming one line of canal, as they will continue to do even in advanced stages of common chronic peritonitis, they constitute a mass of

tubes communicating freely with each other, and with the thickened and ulcerated peritoneal membrane, by innumerable openings. The matter which will be found both within and without the mucous membrane, will be observed to correspond exactly with that which was passed during life by stool.'

Dr. G. gives the following reasons for considering this form of marasmus as primarily a disease of the peritoneal membrane. First, 'the early symptoms of the disease are those of peritoneal inflammation : secondly, because the tongue, appetite, and functions of the bowels are not sensibly affected, until a period of the disease, when we may reasonably conclude that in the progress of ulceration, those communications between the membranous linings of the intestines have formed, which appear to characterize this affection : thirdly, because on dissection the peritoneum is found so universally diseased, the portions of it lining the liver and diaphragm being as much involved in the disease, as those which form the mesentery. In one instance only have I observed the affection to be limited to particular portions of the peritoneum, and there the mesentery, mesocolon and the lining of the bladder and pelvis, were the parts principally occupied by the disease.'

Dr. Gregory supposes the causes of this affection to be altogether unknown. His practice consists in the application of leeches and fomentations during the first stages, and afterwards in the employment of purgatives, mercurial alteratives, tonics, chalybeates and absorbents ; he does not think, however, that he has ever produced any real impression on the disease. When the attacks of pain are violent, laudanum is thought to afford the only relief we can give.

Case of fractured Os pubis successfully treated. By Henry Coates, Esq.

In this case the fracture of the bone was situated at the junction of the ramus with the ischium. The following extract will show how the fractured parts were supported.

'The immediate object being to support the fractured parts, and it being quite impossible to pass a roller round the patient, I had constructed a bandage of wide woollen girth web, with buckles and straps placed closely. This was drawn under the pelvis by means of pieces of tape attached to the bandages, which were insinuated by a plate of elastic steel, and then buckled as tight as it could be borne, with directions to tighten it still more as the bandage should stretch. Two straps from the back part were passed between the thighs, and buckled to the anterior portion of the belt, to retain it in its situation. Pads were also placed on each side the pubis.'

The antiphlogistic plan of treatment was here strictly followed, which Mr. Cotes supposes contributed much to the success of the case.

Case of sudden death in which a Hydatid was found in the substance of the heart.

A case of Aneurism of the Carotid Artery. By Henry Coates, Esq.

‘I AM induced,’ says Mr. Coates, ‘to lay the particulars of the following case before the Medical and Chirurgical Society, as it relates to, I believe, the largest aneurism of the carotid, in which a ligature has been applied to that artery in this country. Though the patient did not eventually recover, yet as he lived sufficiently long to prove the success of the operation, and as he may be considered to have died from causes in a great measure independent of it, I trust the peculiar features of the case may be deemed worthy of the attention of future operators.’

The subject of this case was forty-one years of age. The operation was performed on the 3d of January. The patient had progressed tolerably well until February 4th, when he passed an uncomfortable night, with considerable fever. He complained, also, of great uneasiness in the trachea; had a troublesome cough, and great difficulty in separating the mucus. February 5th he is stated to have passed a good night, with but little cough, and slight fever. On the 6th of February as the aneurismal tumour was greatly enlarged, much inflammatory appearance of the skin about it, and the anterior part soft. Mr. C. made an opening into the most prominent part of the tumour, and discharged about seven ounces of fetid blood mixed with pus. The discharge gave great relief. The patient did very well until the 27th, when hemorrhage took place from the opening in the aneurismal sac, by which he lost about six ounces of florid blood. Hemorrhages continued to occur from this opening until, the 4th of March when he expired.

Mr. Coates concludes the case with the following remarks.

‘Reviewing the circumstances of this case, it may be a question whether the contents of the aneurismal sac should not have been earlier discharged. It was indeed originally my intention to do so, had not the absorption proceeded with rapidity, so early after the operation. I think I would adopt this course should a similar case occur to me; for it appears that the coagula produced the severe symptoms of local inflammation, which caused the enlargement of the anastomosing vessels, and subsequent hemorrhage. But I had a difficult and delicate course to steer, with few examples for my

guidance, and the exact limit to which an operator may proceed in such unusual cases, can be determined only by successive experiments.'

Case of Malformation of the Heart. By GEORGE GREGORY, M. D.

The subject of this case continued to live, with all the symptoms of a malformed heart, until he was eighteen years old, The following is Dr. Gregory's description of the appearances on dissection.

'The lungs were found adhering every where very firmly to the pleura costalis and pericardium. Tubercles and vomicae were scattered through their substance. The cavity of the pericardium contained four ounces of serum. The heart was very firm, and of a natural size. The aorta and pulmonary artery arose from the right ventricle, The septum ventriculorum, at its base, was wanting for an extent somewhat larger than the diameter of the aorta. The pulmonary artery was not much smaller than natural, and its origin was surrounded by some cartilaginous like fibres, between which and the semilunar valve a small sac was formed. It was observed that the opening in the septum ventriculorum corresponded so exactly with the situation of the aorta at its origin, that the contractions of the left ventricle must have propelled its blood almost entirely into that vessel, while the blood of the right ventricle might have been divided equally between the two great arteries, So free, however, was the communication of the ventricles with each other, that in the diastole of the heart, it is presumable that the venous and arterial blood were ultimately mixed.'

A Case of Chorea successfully treated by Arsenic. By GEORGE GREGORY, M. D.

On the efficacy of the bark of the Pomegranate tree in cases of Tænia. By P. BRETON, Esq.

Eight cases of tænia in which the bark of the Punica Granatum was used with success, are related in this paper. It was exhibited both in powder, and decoction. The following case will give our readers an idea of the way of administering it, and of its effect.

'For several days my Kidmutgar complained of symptoms which I conjectured to be those of tænia. The fact having been subsequently confirmed by the appearance of fragments of the worm, I immediately determined on making personal trial of the remedy prescribed in Dr. Fleming's book.

‘Accordingly I prepared a decoction of the fresh bark of the root of the pomegranate tree, by boiling two ounces of it in a pint and a half of water, to three-fourths of a pint, and when cold, I administered a glassful of it at 8 A. M. repeating that quantity every half hour, till four doses were taken. About an hour after the last dose, an entire tænia was voided alive measuring nearly eight feet in length.’

Mr. Breton also tried its effect on live tænia out of the body. ‘Having procured live tænia, (as well as fragments of them which had been passed previously to the exhibition of medicine) I was very desirous of witnessing the effect of the decoction of the pomegranate root, and also of a mixture of the powder of it with water, when applied in immediate contact with them. The instant they were plunged in these preparations, they writhed, and otherwise manifested great pain, and died in the space of five minutes. In plain water these worms will live several hours after expulsion.’

On the efficacy of the bark of the Swietenia Febrifuga, as a substitute for that of the Cinchona. By P. BRETON, Esq.

Mr. Breton relates three cases of gangrene and one of sup-puration of the liver, in which he employed the Swietenia Febrifuga; these cases all got well during its use. He imagines that it will effectually answer all the purposes of the cinchona.

On the Physiology of the ear. By JOSEPH SWAN, Esq.

It is attempted to be shown in this paper that persons born deaf and dumb, having no defect in the auditory nerves, may be made to hear through the medium of the facial nerves. A case is also related to show the practicability of making the dumb understand various sounds, and even to speak.

The subject of this case (Elizabeth Nobles aged thirty six) was born with the external meatus of each ear, imperforate; so that there could have been no communication whatever, between the external air and the membranæ tympani, did they exist.

She did not begin to talk tolerably well until she was about twelve years old. She now talks so as to be perfectly understood. She hears perfectly well when at the distance of six or seven yards from the person speaking, and much better when the speaker is in front of her. She can hear a watch only when in contact with her face or mouth. She was thought by herself and others to have heard through her nose

and mouth, and to have collected the meaning of what was said from noticing the motion of the speaker's lips. To prove that this was not the case, the circumstance with regard to the watch is referred to; she could also hear distinctly what was said to her, when her eyes were shut, and mouth and nose closed. Pressing the fingers on the situation where the external meatus ought to have been, or covering it closely with thick cloths, made no difference in her hearing. Her face was covered with cloths, and she heard the questions asked her the more faintly in proportion to the extent of the coverings. She cannot hear sounds at a distance, be they ever so loud.

Mr. Swan observes that in this case no means were employed but such as are used for the instruction of children in general, nor were any pains taken, as is common in the education of dumb children, to make her understand. He asks, therefore, if the reason may not be why those dumb people who have had much pains bestowed upon them for their instruction, do not occasionally have the faculty of hearing perfected, (he here speaks of those only whose auditory nerves are perfect, and who have the portio dura capable of recovering impressions of sound,) 'because their whole attention has been taken up with signs, &c. and no methods have been used to increase the power of the provision usually made by nature for supplying the defects occasioned by imperfections of the tympanum.' 'I think this may be the case;' says he, 'because we find that the sensibility of the nerves, as far as the performance of their particular functions is concerned in the production of the senses, is increased by proper use.' He goes on then to prove this by some familiar facts, and then says, 'If this be true, may we not suppose that in dumb people the facial nerves would have much more power of receiving the impressions of sounds if they were properly exercised, than where no exertion of this sort is made? I doubt not but that many people have the power of hearing sounds with the face, where the mechanism of the ear is perfect; for I have frequently stopped up the external ear as close as possible, and yet the human voice has been heard. I have in one instance seen the ears so stuffed with wax, as to produce all the noises attending that complaint, without the patient being at all deaf. These noises had existed a year; and I conceive, in this case, the facial nerves must have been of essential service to the patient.'

Case of Amputation of part of the Tarsus and Metatarsus, and preservation of the shape and usefulness of the foot. By JOHN DUNN, Esq.

The subject of this case, (a boy of 14 years old) had removed from his foot, by two different operations, the oscuboi-

des, os naviculare, the three cuneiform bones, also the tarsal extremities of the metatarsal bones of the second and third inner toes. The part soon healed and the boy did well. The place from which the bones, &c. were removed is stated to have been so filled up with cartilaginous matter, that hardly any deficiency could be perceived. Mr. D. in a postscript to this paper, observes that he has received a letter from Mr. Dowson relating to this case, written four years after the operation, and gives the following extract from it. 'The sound foot is at present one inch and a half larger than the other. This difference, so much greater than at the time the cure was effected, would appear to arise from the imperfect powers of growth of the diseased foot, and the want of a proper bony basis. The lameness is extremely slight, and is caused solely by the want of flexion in the foot; for he never experiences any pain, even after very great exertion, and is equal to several hours daily labour in the coal pits. His appearance is delicate, but his health at present very good.'

An account of a case in which numerous calculi, were extracted from the urinary bladder, without the employment of cutting instruments. By ASTLEY COOPER, Esq. F. R. S.

This interesting case is related by the patient himself, (the Rev. Mr. Bullen.) By repeated operations, 84 calculi were extracted from the bladder of this gentleman.

'The instrument which I first had made,' says Mr. Cooper, in his remarks on this case, 'for the purpose of removing these stones from Mr. Bullen, were merely common forceps, made of the size of a sound, and similarly curved; but Mr. Weiss, surgeon's instrument maker in the Strand, shewed me a pair of bullet forceps, which he thought would, with a little alteration, better answer the purpose I had in view. He removed two of the blades of these forceps, for there were four, and gave them the form of the forceps which I had constructed: the blades of this instrument could be opened whilst in the bladder by means of a stilette, so as to grasp and confine the stone, and they appeared so well constructed for the purpose, as to induce me to make trial of them.' He here refers to the plate which gives a representation of these forceps. 'On the 23d of November, 1820, I first employed them, and the manner in which they were used was as follows: Mr. Bullen was placed across his bed, with his feet resting on the floor, and a silver catheter was then introduced, and the bladder emptied of its urine. I then passed the forceps into the bladder, and was so fortunate in my first operation as to extract eight calculi.'

‘The instrument gave but little pain on its introduction, but when opened to its greatest extent, and the stones admitted between its blades, their removal was painful, more especially at the glans penis, which appears to be the portion of the urethra, which furnishes the greatest resistance to the removal of the stones.

‘A dose of opium was given after each operation, which Mr. Bullen has described; it frequently allayed all irritation; and in the intervals between the latter operations, he walked from Brompton into London; nor was he ever, after the symptoms of retention had left him, either confined to his bed or to his room.’

On Sloughing Phagedæna. By RICHARD WELBANK, Esq.

In this complaint Mr. W. uses the nitric acid as an escharotic; he applies it immediately to the diseased part. In a variety of cases he found this practice uniformly and immediately successful. He relates eight cases of this disease. In the two first the acid was not employed, and the patients both died; in the other six it was used, and they all recovered. In this paper we have a very full and interesting account of the symptoms and treatment of this most terrible complaint, but our limits will not admit of a fuller notice of it.

An account of a case of Tetanus successfully treated in the York Military Hospital, at Chelsea. By M. A. BURMESTER, Esq.

This case originated from a trifling wound of the integuments near the first joint of the index finger of the left hand.

It was treated by large bleedings, laxatives and diaphoretics, especially the warm bath. Mr. B. says his experience has shown him that the cold bath instead of doing good, only aggravates the symptoms of tetanus.

Case of a separation of a portion of the uterus during severe labour. By P. N. SCOTT, Esq.

The subject of this case was in labour with her first child. The labour was protracted, and the sufferings of the patient were extreme. The os uteri was found to be thick, unyielding and but little dilated. During a most severe pain she felt something snap, which one of the attendants affirmed she heard. The pains then suddenly ceased; there was hemorrhage, cold sweats, fainting, feeble pulse, and a vomiting of a brownish matter. At this time the head of the child was so low down, that by the use of the vectis, delivery was accomplished. The child was living and the placenta soon expelled.

Among the clots of blood there was found a substance which was afterwards proved on the authority of a number of the most eminent physicians and surgeons, to be the os uteri, and an irregular part of the cervix surrounding it. This patient after many troublesome and dangerous symptoms, recovered.

'It has appeared to me, as Dr. Merriman suggested,' says Mr. Scott, 'that the head of the child passed through the superior aperture of the pelvis carrying the uterus before it, with the os uteri very little dilated, and that in this way the dilatation of the uterus was prevented, by the head pressing it firmly against the sides of the pelvis, so as to prevent the action of the uterus from being exerted on the cervix. The great force of the uterus acting on the body of the child, might thus produce the separation of the circular portion exhibited.'

A case of Inguinal Aneurism successfully treated by tying the external iliac artery. By EDWARD SALMON, Esq.

On Lithotomy. By PHILIP M. MARTINEAU, Esq.

Mr. M. attempts in this paper to show the superiority of the lateral over the high operation.

The following quotation will show this gentleman's method of operating, and its success. 'In the first years of my practice I was not very successful; and often witnessing many untoward circumstances in myself and others, which appeared to arise from the use of the cutting gorget, I determined to lay that instrument aside, and employ the knife only, and the blunt gorget, as a conductor for the forceps; and as I have now so operated from the year 1804 to 1820 inclusive, a period of seventeen years, I shall subjoin the name, age, and event of each operation, with the weight of every stone, and it will be seen that in the seventeen years, eighty-four patients have been cut, ten of whom were private cases, and of this number only two died.' Here follows the list referred to.

Case of Cynanche Laryngea in which tracheotomy and mercury were successfully employed, with remarks. By WILLIAM HENRY PORTER, Esq. A. M.

This patient was first attacked with hoarseness in his voice, which lasted him for ten days; afterwards his breathing became much obstructed, and he was driven by his sufferings to seek relief at different charitable institutions, and of private practitioners. He had been bled, had taken nauseating and purgative medicines, and been repeatedly blistered. He thought he received the most benefit from the nauseating medicines,

but observed he had always been worse after the application of a blister. He was about 30 years of age, strong and well formed, but with a slight stoop.

When he applied to Mr. Porter, at the Meath hospital, he exhibited those well known and distressing symptoms which accompany cynanche laryngea. In this case however, the fauces showed no marks of the existence of inflammation, nor had the individual at any time since his attack, experienced difficulty of deglutition. A bolus containing ten grains of calomel was ordered, and he was bled from the veins of both arms at once. As the breathing was not at all relieved by the use of these means. Mr. Porter determined upon the immediate performance of tracheotomy, as affording the only chance of preserving the life of the patient.

At the commencement of the operation, the vital powers were at the lowest ebb; but so soon as an opening was made into the trachea, immediate relief was experienced, the patient breathed comparatively easy, and those distressing symptoms which accompany oppressed respiration, entirely disappeared. Under the use of mercury, in large doses, and mild laxatives, he soon recovered his health, and he even thought himself better than he was before his attack, having always had a thick unpleasant sensation whilst speaking, which was now removed.

Mr. Porter thinks the operation of bronchotomy, to afford any chance of cure, should be resorted to very early in the complaint. He believes the common means, as bleeding, blistering, &c. to be usually inefficacious. He imagines bleeding might be serviceable could it be employed in season, that is, in the first stage of the inflammation, before any effusion has taken place, but that when the effects of the inflammation are once established, the abstraction of blood would only be injurious. Of blisters he thinks unfavourably, but has a high opinion of mercury, exhibited in large doses.

Case of a large Adipose Tumour successfully extirpated. By
ASTLEY COOPER, Esq. F.R.S.

This tumour grew from the front of the abdomen, and weighed, independently of the blood which it contained, 37 lbs. 10 oz. The patient recovered from the operation perfectly well, and in eight days from its performance was able to walk about.

The first appendix to this volume contains an abstract of the account of a case of adhesion of the labia pudendi in a negro, obstructing delivery, drawn up by Dr. William Russell, of Jamaica. The second, an account of a child three years of age

in whom there appeared signs of puberty. Abstracted from a paper communicated to the society by Gilbert Breschet, M. D.

This child weighs 50 pounds, and is three feet six inches three quarters in height. 'The penis measured in length from the pubis to the extremity of the glans nearly four inches when in a flaccid, and five inches and a quarter when in a state of erection. The circumference of the glans in the former condition was three inches and a half; in the latter, three inches and three quarters.' This child has many of the other physical characters which mark a state of puberty. 'His gait is free from the vacillation which characterizes that of children of his age, and his muscles are more developed, and more vigorous. He is of an intrepid disposition, conscious of his power, disdaining to engage with children of his own years; and placing his chief delight in contests of strength with those with whom he is a more equal match.' His voice corresponds in its tone to that of a youth 16 or 18 years of age. His intellect, however, does not keep pace in its development with the progress of the genital system. The testicles are not enlarged in proportion to the penis. 'The sexual instinct has manifested itself by the frequent erection of this organ, on occasions calculated to excite it: it has not however led to the practice of onanism.' Occasional stains discovered on his linen would lead to the belief that semen was secreted. It is stated that his teeth made their appearance unusually early.

SELECTIONS.

REVUE MEDICALE.

Reflections and Observations on the Lachrymal Tumour. By M. Ducasse, Jr. C. D., &c. &c.

THE object of this paper is to bring more fully into notice the pathological views of Scarpa on the subject of lachrymal tumour, and the treatment which he has found most successful in this disease. Scarpa discovered the cause of this affection to consist in something very different from a narrowing of the nasal duct, and that this last is its least frequent source. In individuals suffering from lachrymal tumour, a remarkable change is to be observed in the condition of the eyelids. Their edges, or where the eyelashes are fixed, are ordinarily swollen and red; a thick gummy matter in great quantity keeps them glued together after sleep, and an uncomfortable itching obliges the patient to rub them frequently. If the lower eyelid be inverted, it will be found to have lost its natural whiteness and paleness. It is now red, villous, injected, possessing an acute sensibility; its vessels are gorged with blood, and a mucous substance more or less abundant, covers its whole extent. The lachrymal caruncle will exhibit the same appearances; there is a sense of weight in the eye, and a slight flow of tears still farther fatigues it; the weeping soon increases; uneasiness and even pain is experienced in the inner angle of the eye; a tumour appears between the nose and inner angle of the eye, and if, at this period, a pressure however slight be made on it, there will be observed immediately from the puncta lachrymalia, and particularly from the lower, a fluid resembling tears, but which is mixed with a white, mucous, puriform substance, which renders them turbid.

Such is the lachrymal tumour, in its earliest stages. If it be neglected, and especially if its cause is allowed to remain, it increases daily, distends the sides of the sac, inflames them, and sooner or later degenerates into a fistula. The cause of this tumour is chronic inflammation in the mucous membrane of the eyelids, and of the glands of meibomius which are situated on their edges.

The following cases are translated from the memoir of Ducasse, and are offered the reader on account of their valuable practical instructions.

Miss B., twenty-six years of age, has had a tumour of considerable size in the inner angle of the left eye for two years. Incommoded by it, and particularly from the abundant discharge from the red edges of the eyelids, and by a continual flow of tears over the corresponding cheek, she had frequently consulted physicians, had employed successive blisters, but without benefit. Notwithstanding their use, and that of various evacuant remedies, the tumour never sensibly diminished, and rather than submit to the operation proposed for her relief, the patient preferred to carry the disease about her for life. Being consulted in my turn, says Dr. Ducasse, I recognized it as one of those cases in which the method of Scarpa has been so successful. I directed to dry up a blister which had been entirely useless, and this measure, joined to the idea of escaping a bloody operation, inspired the patient with great confidence. I profited by it to begin almost immediately the use of Jannin's ointment as diminished in strength by M. Leveillé,—of injections of sulphate of zinc, and of local and general bathing. At the expiration of a month and a half, the tumour which I took care to press many times daily, diminished daily; the matter which came from it at the same time was of a better quality; tears soon constituted the sole discharge; the eye recovered its natural colour, the mucous membrane its natural thickness and colour, and for two years no relapse has occurred.

The subject of the second case was aged fifteen. The treatment was as successful as in the preceding case. For eighteen months a tumour of considerable size had existed in the greater angle of the eye, accompanied by all the symptoms above detailed. The same curative measures were adopted. But what was my surprise, says Dr. Ducasse, to find that no progress was made towards recovery, that no sensible amelioration took place, and that the tumour emptied three or four times daily, shortly regained its original size. I thought that this want of success depended chiefly on the mismanagement of the individual to whom the treatment was confided, and I became shortly convinced of this, by assisting at this little operation. I now dressed the patient myself. I took care to introduce the ointment myself in the small angle of the eye, injected the eye, and at the end of a month and a half, no trace of the original affection remained. Meanwhile, however, as the patient had been subject to various eruptions, I was led to believe that a blister, and some grains of calomel taken from time to time, would not be without utility.

The next case occurred in the person of Professor L. of the Lyceum of Toulouse. Dr. D. was consulted after a tumour had formed in the great angle of the eye. The precursors were the

same as in the preceding case, and the disease itself was aggravated by the use of the eyes in severe study. Very little effective would be submitted to, and after the trifling relief it produced, the Professor returned to his labours. The disease was aggravated, a severe inflammation occurred, which extended to a part of the face, and shortly suppurated. The tumour burst; a very great quantity of matter was discharged; but notwithstanding its abundance, the tumour was but imperfectly emptied. Some days after inflammation returned with increased violence, extended itself rapidly; suppuration soon took place, and the matter soon discharged itself. At this time, the pus when nearly discharged, was found mixed with a fluid known to be tears, and I had no doubt of the existence of a fistula lachrymalis. The soft state of the parts, after this second opening, allowed me to adopt the practice I had in other cases tried successfully, for, to this time, I could only employ a local antiphlogistic method. I did not, however, hope thus to cure the patient; but I wished at least to destroy in part the cause of the disease, and render more efficacious the operation, which appeared to me indispensable. By the aid of injections, a part of which passed by the fistulous opening, and the introduction of the ointment of Jannin, I saw with pleasure the discharge take place almost entirely by itself, the lower eyelid resume its natural condition, and the fistulous hole contract itself; but the continual flow of tears prevented the good effects of these means, and already the patient, persuaded of their insufficiency, was prepared to submit to the operation, when I led him to understand, that the season being cold and damp, it was perhaps better to wait a little. Full of confidence in my advice, he followed it with rigor, and daily felicitated himself for having checked his impatience. The fistulous opening cicatrized completely; the tears have again taken their ordinary course by the nasal ducts; the eye has recovered its form almost entirely. Its secretions are natural; and with the exception of a slightly increased sensibility of this organ to the impressions of the atmosphere, especially humidity of the air, its functions are performed as in a state of health. For more than two years the cure has remained perfect, and by my advice, M. L. still uses the ointment occasionally, less he says because it is required, than from a sentiment of gratitude.

Such, remarks Dr. D., are the observations, the details of which I have thought might interest the practitioner. Not because the method recommended should be exclusive, for there is nothing exclusive in nature. When the lachrymal tumour depends on an obstruction in the nasal canal, whether by a thickening of its mucous membrane, or by the pressure of some neigh-

bouring tumour which narrows its diameters, this method will undoubtedly be useless. It is only applicable when the cause of the disease exists in the eyelids, and in the chronic inflammation of their mucous membrane, and the glands of meibomius; and I think I have demonstrated, after an attentive observation of facts, that these are its most common causes.

One of the objects of the author of this memoir is not so much to write a treatise on the disease which is its subject, as to prove the excellence of the method of Scarpa. The other is to establish :—

1st. That lachrymal tumours and fistulas are not always essentially and originally owing to a narrowing of the nasal duct.

2d. That they have most frequently their real origin in a chronic inflammation of the internal membrane of the lids and of the glands of meibomius;

3d. That the method of treating these diseases in France is too uniform; that it does not apply to the great majority of particular cases, and that the frequency of relapses should be attributed to no other cause.

4th. Finally, that the method of Scarpa almost always deserves a preference, and that it is not only applicable to the *flux palpébral puriforme*, (which is prior to and the cause of the lachrymal tumour) as its author teaches, but also to the lachrymal tumour, even in cases in which it is already reduced to a state of simple fistula.

Analysis of the Piper Cubeba. By M. Vauquelin.

From this analysis it results that the grains of the Cubebs contain,

1. A volatile oil almost concrete;
2. A resin similar to that of the balsam of copaiva;
3. A small quantity of another resin, coloured;
4. A coloured gummy matter;
5. An extractive principle analogous to that which is found in leguminous plants;
6. Some saline substances.

Memoir on ruptures of the Heart. By M. Rostan, Physician of the Salpêtrière.

These ruptures are rare. Haller and Morgagni hardly mention any examples of them. M. Corvisart never saw a case of the kind, and the only case related to him was by M. Ferrus.

M. Portal was the first in France to observe an instance of this species of lesions.

If we were to judge from the small number of cases we possess of ruptures of the heart, it would appear that the left ventricle is more frequently ruptured than the right. The right ventricle is more liable to rupture than the auricles, and the arteries than the veins. Rupture of the left ventricle is immediately fatal. M. Rostan has always observed, that in these cases the ventricle is thicker at its base, and thinner at its apex, than in its natural condition. 'The disproportion of the diameters is such, that frequently when the superior part of the ventricle is fifteen or eighteen lines in diameter, its apex is not more than two lines thick.'

A case of large Calculus, extracted by the recto-vesical incision.
By Dr. Barbantini.

A man, fifty years of age, had for a long time suffered from stone in the bladder. By its weight the stone had depressed the fundus of this organ, making it project into the rectum. It extended from one ischium to the other. These circumstances determined the author to prefer the operation through the rectum to the lateral operation. He provided himself with a long grooved sound and a pair of forceps with blades unconnected and broader than ordinary. Having disposed every thing for the operation, the operator introduced a staff into the bladder, and gave it to the assistant to hold. Then with the left hand he raised the scrotum, and extended the integuments of the perineum with the thumb and first finger of the same hand. He divided the sphincter with Chesselden's knife. Its point was pushed in about half an inch from the anus, and he terminated the incision, particularly the upper part, where the sides of the intestine yield a little, by pressing the edge of the instrument against a wooden gorget, which he had introduced into the rectum to protect that portion of this viscus which answers to the coccyx. He then passed the first finger of the left hand into the wound, which served him as a director to guide the lithotome on the groove of the staff, and made an incision into the bladder beyond the prostate. This incision was of but slight extent, for the point of the instrument was arrested by the stone, which was of great size, and lay very low. In the next place he carried his finger to the stone, and along it he introduced the grooved sound to a distance he judged proper. Withdrawing the staff, he carried the lithotome along the groove of the staff, and divided the bladder to such an extent as he judged necessary for

the removal of the stone, he seized it in the direction of its smallest diameter with the forceps of *Frère Cosme*, but was unable, notwithstanding the strong efforts he made, to extract it. The stone being caught in the wound in the bladder, he employed the other forceps, of which he introduced the branches separately, and thus embraced the stone as far up as possible. The extraction required much greater efforts than common. The stone weighed nine ounces and a half. The important object in the treatment was to prevent a too sudden healing of the wound in the sphincter, in order to the easy and natural evacuation of fecal matter, and to prevent its entrance into the bladder. The urine passed by the anus for the first eighteen days after the operation, except a few drops which passed the urethra. At this time the operator introduced his finger into the wound, and found that the walls of the bladder were thick and hard, and discovered some days after, small calculous concretions strongly adhering to the internal surface of the rectum. A portion of the false membrane, in which these concretions were embedded, was detached, and this operation repeated in three or four days sufficed to remove them entirely. A gum elastic catheter being at this time placed in the urethra, the urine ceased to pass by the wound, except when the catheter became obstructed by mucus.* Eighty days after the operation, the patient evacuated the bladder voluntarily; and although the catheter was removed, no urine passed by the small wound, which yet remained to be cicatrized.

A Memoir on the Treatment of acute diseases in individuals accustomed to the use of wine and ardent spirits. By M. Chomel.

The object of the author of this memoir, is to show that we should be influenced by the previous habits of patients in the treatment of their diseases. He cites four cases of peripneumonia in professed drunkards. They were all treated after the antiphlogistic method; but two of them were entirely deprived of wine, while the others were permitted to drink it. The two first died, the last recovered. This is the substance of the memoir. The reviewer agrees with M. Chomel respecting the treatment. His reasons for this are, that acute inflammations in such subjects require a stimulating treatment; that a half bottle of wine is merely a tonic to him who has been in the habit of taking from five to six bottles a day; in other words, that the effects of medi-

* Injections were successfully made through the catheter and wound.
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cine are not absolute, but relative to the state of the individuals who employ them.

[Arguments, somewhat similar to the above, have been advanced against a sudden abandonment of habits of intemperance. It has even been contended that it would be hazardous to do so. These arguments are shown to be entirely fallacious by the facts daily furnished by our hospitals, almshouses, and bridewells. Individuals are constantly admitted into these establishments, sick and well, who have for years been drunkards. They are at once debarred from the use of ardent spirits, and so far from its producing any injurious effects, these individuals are benefitted by it. The sick are to be sure the worst subjects for disease, and their deaths are to be accounted for rather by the bad influences of all their previous habits, than by a temporary suspension of them. The healthy who are subjected to the same measure, invariably improve under it, and go out of their confinement in a state of bodily health, infinitely better than when they were first put under restraint.]—AM. TR.

A Case of Ascites occurring during pregnancy which terminated favourably.

The patient, aged thirty-nine years, and pregnant the tenth time, was attacked by dropsy which resisted all the means employed for its removal. The abdomen became at length so excessively distended, that she could no longer endure the recumbent posture. Paracentesis was practised by her physician, M. Delsupeck, on the left side of the abdomen. Three pints of fluid only could be obtained. The operation was then practised on the right side. Twelve pints of a limpid fluid followed the puncture, with much relief. Labour begun three days after the operation, and before the midwife could arrive, living twins were born. They soon died. In two months the patient was in perfect health; she again became pregnant a year after her confinement, and aborted at the eighth month. Since this period she has enjoyed perfect health.

Ossification of the Brain.

Spurzheim has declared, that he will be the first to confess that the whole doctrine of the functions of the brain is a chimerical invention, if any one would show him an animal who had preserved all its intellectual faculties entire, notwithstanding the brain was ossified. M. Renald has furnished him an opportunity to make this noble declaration, by giving him the descrip-

tion of an ossified brain in a cow, which was in the possession of a friend, and which every body might see. This cow was raised at Tettercaim in Scotland, and except in eating less than other cows, and moving very slowly, had betrayed no signs of disease. This brain is of an oval form, of an obscure white on the exterior. The convolutions, the hemispheres, and all the marks of a natural conformation, as well as the origin of the nerves, the cerebellum and medulla oblongata are all distinguishable. Finally, you see, at the superior and superficial part, a long cleft made by the butcher's axe, and across this mark he distinguished the medullary substance mingling with the cineritious as in the natural state.—*Novi Comment. di Medicina, Fevrier, 1820.*

Iodine in Goitre. By M. Coindet, M.D. of Geneva.

Burnt sponge has long been used in goitre. This remedy contains a small quantity of iodine. Dr. C. was inclined to believe, that the beneficial effects of the burnt sponge were to be referred to the iodine it contained, and put his opinion to the test of experiment. Of the various preparations of iodine, he preferred the *hydriodate of potassa*. This is a deliquescent salt, of which forty-eight grains in an ounce of distilled water, represents by approximation thirty-six grains of iodine. From the solution of this salt, in a sufficient quantity of water, an hydriodate of ioduretted potassa, (*hydriodate de potasse iodurê*) is produced. Dr. C. has employed this in a goitre which was very hard, large, and of long standing, which resisted the action of the simple saline solution, and by its means he has frequently obtained remarkable cures.

Dr. C. has employed most frequently a tincture of iodine, made of forty-eight grains of the substance dissolved in an ounce of alcohol, at 55°. This is easily prepared and sufficiently powerful. A small quantity only should be made at a time, as the iodine is soon deposited in crystals. The dose is six drops of one of these preparations in some convenient vehicle, given three times a day, viz. a dose early in the morning, fasting; a second, six hours after, and the third at bed time. By the end of a week the dose had been increased to fifteen drops three times a day. Some days after, when the medicine had evidently an effect on the tumour, five drops more were added to the dose. Twenty drops contain one grain of the iodine. Dr. C. rarely exceeded this dose. No other medicines, either external or internal, were used at the same time with the iodine. Its effects, as far as these may be inferred from the above case, are those of

a stimulant; it gives tone to the stomach; increases the appetite; and is neither purgative, diuretic, nor sudorific.

Connected with this subject are the following remarks in the London Medical Repository for September 1821, by Mr. Halliday.

'I have ordered the tincture with success in three cases of scrofulous tumours, and have heard of its being prescribed by a friend in two remarkable cases at Edinburgh; but since the appearance of Dr. Coindet's second memoir, I have preferred the hydriodate more particularly, as it has been discovered that the crystals of hydriodate, made into an ointment, and rubbed in like the unguentum hydrargyri, produce even a more rapid cure than when the medicine is taken internally. In local and indolent tumours I would always prefer the ointment; but in the treatment of the constitutional disease, or where scrofulous sores exist, it must be given internally; and in such cases, the Physician ought to begin with ten or twelve minims of the saturated solution of the hydriodate three times a day. The only difficulty I have met with is in ascertaining the strength of the hydriodate in a liquid form. I am not, as yet, aware of any just criterion to go by. The ointment I have ordered is made of the crystals of hydriodate, evaporated to dryness, (taking care that the alkali is well saturated), half a dram to an ounce of hog's lard, and about the size of a filbert of this ointment to be rubbed in upon the tumour morning and evening. After eight days, the action usually begins to take place. I have found great difficulty in procuring the iodine here, and still more the hydriodate of potass, though the latter is easily prepared when the iodine is to be had. I wish they would begin to make it at Apothecaries' Hall, because I am confident it will be found to be a remedy of some importance. The iodate, that is, the salt formed by the combination of iodine with oxygen, is easily crystallized, and little soluble in water, while the hydriodate can scarcely be kept from deliquescing; there is, consequently, little difficulty in separating the one from the other, when they are formed by the addition of iodine to the liquor potassæ, which takes place, as already stated, by the decomposition of the water of solution. I hope these remarks will draw the attention of some of the readers of the REPOSITORY to the subject, and induce them to make trial of a remedy which promises to be as powerful in eradicating scrofula as ever mercury was in curing syphilis.'

Acetate of Lead in Phthisis. By M. Fouquier, Professor, &c.

Angelica, aged thirty-three years, sick fifteen months, (phthisis of the second degree.) has profuse sweats for a month. The 27th August, three grains of the acetate lead; 28th, five grains, no amendment; 29th, seven grains, sweat somewhat diminished; 30th, eight grains, no alteration; 31st, eight grains, profuse sweats; 1st September, nine grains, sweat less; 2d, ten grains, sweats checked, slight colic; 3d, four grains, little sweat; weather cold, no sweat, no diarrhœa; 6th, warm, no pills; the sweats have not appeared; the 15th, the patient went out, the sweats having completely gone. M. Fouquier offers the following conclusions from the facts in his memoir:

1. That the acetate of lead possesses some peculiar property, in virtue of which it stops the ~~colli~~quative sweats of phthisis.

2. This action may be regarded as specific, since it takes place after a manner almost constant and independent of circumstances, which apparently should oppose or prevent it.

3. It is wrong to charge this substance with producing the colic of lead.

4. It may be administered without danger in the quantity of twelve grains a day: the medium dose is from four to eight grains. It is necessary that a certain quantity should be exhibited, in order that its effects may be produced.

5. As the sweats of phthisis depend on a permanent cause, which tends to reproduce them when we cease to employ the remedy, it is conceived that the use of the acetate of lead should be continued.

[Etmuller, Pringle, and Ameburg, have used it after a similar manner and in the same cases, as the above. The effects in their hands were similar to those noticed by M. Fouquier. It checked the sweats, and without dangerous consequences. It is occasionally used in as large, and even in larger quantities, in uterine hemorrhage, and colic is an extremely rare occurrence after such free employment of it. The translator recollects distinctly a case of vomiting of blood, in which the sugar of lead was given in doses of six grains, repeated every four or six hours according to the hemorrhage, until four doses were taken, in which no colic or any other unpleasant accident occurred. In this case, such was the state of the stomach, that for several days the mildest fluids and in the smallest quantities only were borne, and vomiting occurred almost daily. The stomach would not bear cathartics. The bowels remained constipated, and were only relieved by the partial operation of injections.]—AM. TR.

Translated from the *Revue Medicale*.

On the Purulent Discharge of the Tympanum of the Ear. By
Joseph Swan, Esq. Lincoln.

DOUBTS have long existed in the minds of many men of the highest eminence in the profession, about the proper method of treating the diseases of the ear, attended by a purulent discharge. So different, indeed, have been the sentiments of different men on this subject, that whilst some have been entirely averse to attempts to put a stop to the discharge, this practice has been considered by others as perfectly erroneous.

Mr. Saunders, to whom the world is much indebted for his researches into the nature and treatment of diseases of the ear, has not objected to putting a stop to the discharge in any case : and his plan is acted upon, at the present time, with the greatest advantage in general to those who are affected with this complaint ; but, as cases now and then occur where the stoppage of the discharge, or even the attempt to stop it, is attended with dangerous, and even fatal consequences, I thought it might not be amiss to endeavour to point out the cases where experience shows there is ground for such apprehension.

The case I am about to relate is by no means uncommon ; but I bring it forward, because, where similar ones have ended fatally, so little notice has hitherto been taken of them, with a view to point out the best method of treatment.

Mr. S. about 50 æt. had an inflammation of the tympanum, which terminated in suppuration, when the abscess broke, and relieved him. He afterwards complained much of his head, and had a disorderd state of the stomach. He had blisters applied for the relief of his head, and took occasional doses of blue pill, and some other medicines. As he continued in a bad state of health, he went into the country for change of air, where, as the discharge of the ear continued, he was recommended to use an astringent injection as the means of putting a stop to it. After a few weeks he returned home much benefited by his journey. Though he still complained of his head, yet, as he had used the injection without any apparent injury, I did not object to his persevering in the use of it.

On the evening of the 8th of October, which was a day or two after I saw him on his return home, he sent for me, and I found him complaining of great dizziness, with some pain and confusion of the head. As he had eaten a hearty dinner, I conceived that the symptoms might proceed from the stomach. I therefore prescribed for him four grains of submuriate of mercury, and some purging medicines, desiring at the same time that the injection might be entirely discontinued. The next

morning, as I found him no better, and though the pulse was hardly affected, yet, as I suspected that the irritation from the ear had extended to the membranes of the brain, and thought that inflammation of them might possibly be impending, I took some blood from the arm, which relieved him very much. I ordered a blister to be applied to the back of the neck, and the following draught and bolus to be taken every four hours.

R Sulph. magnes. ʒiss. syrapi. ʒi. aq. puræ ʒxi. M. f. haust.

R Pulv. antimon. gr. iv. submur. hyd. gr. i. cons. ros. can. q. s. f. bolus.

The blood was inflamed, and had the buffy coat.

On the 10th some leeches were applied to the temples, and, though he seemed better, yet, as I was very apprehensive about the termination of his complaint, I requested that my friend Dr. Cookson might see him; and his opinion as to the nature of the complaint entirely coincided with my own. The same medicines were given for some time, and afterwards some gentle tonics. He was kept perfectly still, and a strict antiphlogistic regimen was enjoined. For some time, walking, or the least motion of the head, appeared to affect the brain, producing the dizziness, and most uneasy sensations in the head.

The discharge during all this time continued, but, by great care, after some months, it abated of itself; and, though it was a long time before the head felt entirely as it ought to do, yet the unpleasant sensations gradually wore away; and, though the hearing of the affected ear is still very far from being perfect, yet it is much better than could reasonably have been expected.

In this case the discharge of matter was very great; and if the osseous parietes of the tympanum had not ulcerated through so as to expose the dura mater, that membrane was very much irritated, and from some cause, whether from the injection or not I cannot say, the irritation was very much increased, and communicated to the brain.

Whenever a purulent discharge from the ear is attended with much complaint of the head, suspicions ought always to be entertained that the dura mater is irritated in consequence; and on any increase of the affection of the head, effectual measures should be taken to arrest the progress of the mischief by bleeding, and a strict antiphlogistic regimen. In such cases we ought not to wait until there are decided symptoms of inflammation of the brain or its membranes, because then, as cases on record show, suppuration extending some way on the base of the organ can hardly ever be prevented, but the remedies I

have mentioned ought to be used immediately on the increase of pain in the head and ear.

To those who have not much considered the case, these symptoms, may not seem to require such active treatment; but if both the patient and practitioner's fears are suffered to be lulled into security for many hours after their approach by palliatives, the disease will have made such progress as probably to resist the employment of every thing that can be done. I consider, therefore, that when there is a discharge from the ear, and the head is complained of, all that ought to be done is an attention to the general health, and an attempt by counter-irritation, as blisters behind the ears or on the back of the neck, to remove the disease from the ear. The meatus ought not to be stopped up with cotton or any other substance to prevent the free escape of the matter, as I am convinced, that when the discharge is great, such a practice is very wrong, and probably not only adds to the irritation by its confinement, but may lead nature to attempt some other outlet, and thus cause an absorption of the bone, and consequent exposure of the dura mater. And, upon the whole, I think that on no account, in the case where the discharge is accompanied by pain in the head, ought astringent injections to be used to put a stop to the discharge, as, when it has been stopped by perseverance in this mode of treatment, the brain has always appeared to suffer, and the consequences have been fatal.—*Edin. Med. and Surg. Journal.*

Lincoln, May 6, 1820.

Case of Tic Douloureux, successfully treated by Carbonate of Iron. By Harry William Carter, M.D. Physician to the General Kent and Canterbury Hospital.

THE following case may perhaps be deemed not unworthy a place in the REPOSITORY, since it affords a well-marked example of one of the most painful chronic diseases to which the human frame is liable, and which has but too often baffled the skill of the Physician; and as its event speaks strongly in favour of the plan of treatment recently proposed by Dr. Hutchinson.

Thomas Wanstall, ætat. fifty-eight, a person who had till within the last few years, led an intemperate life, was admitted an out-patient of the General Kent and Canterbury Hospital, December 22, 1820. He stated, that about the middle of October last he was seized by a most violent pain, commencing at the upper jaw, and extending in a short time over the whole of the left side of the face to the temple. Conceiving that his ma-

lady was nothing more than toothach, he had one of the molares extracted, which was extremely decayed, but the removal of which gave him no relief. A second tooth was drawn, which proved to be sound; and subsequently a third, of the lower jaw; still the pain continued as severe as ever. He was never quite free from it; but several times a day he had a paroxysm so violent as to make him roll about upon his bed, and to incapacitate him from giving any description of his sufferings. At night he got no rest, owing to the pain and the beating at the temples, which, to use his own expression, *was exactly like the ticking of a watch*. Several blisters had been applied, lotions had been used, and various medicines had been taken, but nothing had appeared to afford him the least relief, excepting opium, the good effect of which was transient.

When the man presented himself at the hospital, he was suffering severely. His head was wrapped up, for he could not endure the least air to blow upon the affected parts. He was in a state of general debility; pulse feeble; tongue foul; bowels costive, probably owing to the opium which he had taken. I prescribed decoction of bark, with ammoniated tincture of guaiacum, every three hours, and ten grains of Dover's powder at night, and a laxative to be taken as soon as possible.

This plan was persisted in for the three weeks, with evident advantage to the patient's general health, but without the pain of the face being in the least degree mitigated.

On the 13th of January he began taking a scruple of the carbonate of iron, every three hours, made into an electuary, with *confectio aromat.* and syrup.

26.—Had been quite free from pain for four days. His appearance was much improved, and he complained of nothing but numbness of the side of the face.

February 3d.—No recurrence of pain. Iron discontinued. Ordered to take decoction of bark, with the tincture, spirit of lavender, and aromatic confection, thrice a day.

8th.—Numbness nearly gone. No return of pain. He remained perfectly well.—*Lon. Med. Repos.*

London Medical and Physical Journal.—March 1821.

WE extract from Mr. Thackrah's paper on *Hernia Cerebri*, the following summary of the facts contained in his case. The patient was a healthy boy 7 years of age. The cranium was fractured by a blow from a horse's heel. A portion of cranium about the size of an egg, near the junction of the frontal and temporal bones on the left side, was found to be deeply de-

pressed, and part of it driven in edgewise into the cerebrum. The brain was much lacerated, and masses of it were scattered on the hair.

‘Since this period, (July 3,) the boy has remained in perfect health.

Of this disease, few cases of a favourable result have been recorded; nor has the nature of the tumor, and the means best calculated for its removal, been hitherto ascertained.

In the preceding details, some particulars seem worthy of regard.

1. The fungus was highly vascular, and appeared completely organized.

2. It was connected with abscesses, probably situated near its base.

3. Compression at first seemed to repress its growth.

4. Nature was not able to cast off the full-formed tumor.

5. The application of sulphat of zinc also proved inefficient.

6. Strangulation by a ligature, *gradually tightened*, finally removed the hernia, without inducing any alarming constitutional irritation.

7. Pressure prevented the growth of the incipient tumor which arose on the destruction of the former.

Hernia cerebri generally induces a fatal event too rapidly to allow the means used in the preceding case. When the constitution becomes seriously affected, excision affords the only prospect of cure. But, should no alarming symptom occur, the surgeon, I conceive, will not err by waiting till the tumor assumes a form suitable for the application of a ligature. The mode in which this remedy should be used, I conclude, from the case related, to be that of gradually increased compression. Had the constriction been severe at first, dangerous affection of the brain would probably have ensued: and I have been recently informed that, in a case occurring in the neighbourhood, such symptoms succeeded on the application of a firm ligature as indicated the propriety of its speedy removal.’

The following abstracts are from the Edinburgh Medical and Surgical Journal for April, 1821.

ART. VII. Is a case of poisoning by laudanum successfully treated by venesection, by Mr. W. RICHARDSON. In this case about three drachms of laudanum were taken in the course of the night for severe cold, contracted about seven weeks after confinement. It was recommended by an old woman, in combination with vinegar and treacle. The poisonous effects of

opium were induced by this remedy. She could not be roused, and the breathing was regular, but deep and slow, the pulse full, regular, and slow. Very active emetics were given, but no vomiting occurred till mechanical irritation was practised on the fauces. The vomiting was encouraged by drinking hot water. Under this she awoke complaining of slight headache and giddiness. This was nine A. M. She was seen again at 2 P. M. At this time she was insensible, comatose, breathing stertorous. Among others means now used was the fluid ammonia poured into the nostril. Sneezing was produced, and some sensibility restored, great heaviness and vertigo were complained of. Coma again occurred and was rapidly increasing, 14 ounces of blood were now drawn, with immediate relief, and the symptoms entirely yielded to an active purgative. In another case communicated by Dr. Milligan to Mr. R. an ounce of laudanum was taken. The most active emetic substances failed, and no relief was afforded until 20 ounces of blood were detracted, under this practice the emetics were active and the patient rapidly recovered.

ART. VIII. Case of Tic Douloureux cured by cinchona. By D. R. ROBINSON, Surgeon.

This is a well marked case. The patient had tried ineffectually æther, various preparations of opium, as well *externally* as internally; tinct. of castor, leeches, blisters, &c. &c. had submitted to the loss of a sound tooth; and at length after suffering agony for some time made a fair trial of the cinchona after the following manner:

R Pulv. cinchon. ʒij. divid: in chart. xxiv. capiat. unam omni hora in lact. vacin. mist.

R Tinct. Cardam. comp. ʒss. Tinct. valer, ammon ʒi. ag. ʒiv. divid. in haust. iv. una tertia quaque hora sumenda. The above powders and draughts were not administered during the paroxysms, nor was any external application used while taking them.

This plan was persisted in with the greatest punctuality every hour, for nine successive days and nights; after which, she has not had the slightest return of the paroxysms.

‘Two ladies in London, and one in France, says Mr. R. have been completely cured of this painful malady by persevering in the bark plan. Two scruples of pulv. Cinchon. taken every hour for the first twenty-four hours; on the second day, every two hours; on the third day, every three hours, and so on—have been beneficial in curing patients, where the disease has not manifested so much severity as the case recorded.’ It should be remarked of this case that the bark produced a good deal

of disturbance in the system, furred tongue; increased pulse; loss of appetite, bad taste in the mouth; constipation of the bowels, &c. 'It must be allowed, from ocular demonstration, that it increased the irritability of the system: but, after its administration, it left the nervous system in so strengthened a state, as to eradicate this painful affection from the nerves of the face.' Whether Mr. R.'s explanation of the *modus operandi* of the bark in these cases be admitted or not, it seems very clear that during the general symptoms above enumerated which occurred under its use, the *tic douloureux* was cured.

ART IX. *Case of Hydrocephalus Internus, in which the operation of tapping was performed.* By G. FRECKLETON, M.D.

The child was eight months old. Head measured in circumference $21\frac{1}{2}$ inches, and across the vertex from ear to ear $14\frac{1}{2}$ inches. Punctured Sept. 19, with a lancet at the anterior superior angle of the left parietal bone, near the *os frontis*. Then introduced a small trochar. 3viijss. of fluid were allowed to flow through the canula, steady pressure was made during the operation, and bandages were afterwards applied; a tea spoonful of Plenck's *mistura hydrargyri* was ordered the child three times a day. The mixture is thus made.

R. Hydrarg. purif. 3ss.

Mellis optimi 3ss.

Aq. puræ 3viij.

From a small portion of what was supposed to be medullary matter, which preceded the flow of waters through the orifice made by the trochar the gentlemen present considered the fluid to be contained in the ventricles. September 20th, about 3viij. of fluid had escaped from the opening, 23d, head $20\frac{1}{2}$ inches round, over the vertex $12\frac{1}{2}$; 25th, operation repeated, 3vij. and 3ij. taken away. Oct. 2d, 3vij. taken away. 9th 3vij.

The parents now refused any further assistance, till 6th November, when from the increased size and tension of the head, they solicited the puncture. This was done and 3xvj. were abstracted. Great uneasiness and convulsions followed this operation, and the child died on the 9th of the month. From the minutes kept of this case, it is clear that much relief followed the punctures, and that the child appeared doing well. It was suffering from dentition, a state very unfavourable to the success of the operation. It is to be regretted that the unreasonable prejudices of the mother, founded in an idle suspicion that the treatment was purely experimental, put a stop to a course which had decidedly exerted a beneficial influence over a most desperate malady.

ART. XII. *Hydrocephalus Chronicus treated by operation.* By JOHN LIZARS, Esq. F.R.S.

The child was 4 months and 8 days old. Head twice its usual magnitude, all the symptoms of water in the brain clearly present. December 10th, 1820, a puncture was made by means of a couching needle in the anterior fontanelle in the angle, on the right side of the superior longitudinal sinus, the cutaneous veins being carefully avoided. A tea spoonful only of fluid exuded, on account of the conical shape of the needle. A cathartic was given.

17th. Puncture, by means of a delicate trochar and canula. From 4 to 5 ounces of a clear, limpid fluid, discharged. The flow was stopped in the middle for a few seconds. Head supported at its sides during operation, and then bandaged.

21st. Pyrexia, operation opposed by the parents.

25th. Operation repeated, 4 ounces extracted.

The instrument was commonly introduced an inch. In this last operation it was introduced only three quarters of an inch. Child vomited.

28th. Between 5 and 6 ounces removed, child vomited, bandages applied as usual, a marked amendment observed from this day, she sucked well, became more regular in her alvine evacuations, and slept sounder; could see distinctly, had a more natural physiognomy, and cried louder.

31st. Four ounces removed.

January 5. Epileptic fits. After warm bath, and cathartic, no fit took place, four ounces of fluid withdrawn, no vomiting.

9th. Epileptic fits, bones much approximated, and ossification much advanced; puncture made on right side seven ounces of fluid evacuated, no vomiting.

14th. Two slight fits. Half grain calomel ordered night and morning, pierced the fontanelle on the right side, 7½ ounces of fluid abstracted. From ossification being complete, pressure was impracticable, and *air rushed in at the canula*.

19th. Puncture, 7 ounces removed, air escaped when the puncture was made, child had slight fits on the 16th, compression over the fontanelle.

23d. Fits again on the 21st, two ounces removed.

28th. Ten ounces, on the 30th, fits; warm bath, and a purgative ordered.

February 4th, 3½ ounces of fluid removed.

8th. Puncture, no fluid.

18th. The same.

28th. 5 ounces removed.

March 3d. Punctured on the left side, and no fluid appearing, punctured the right and obtained 3 ounces.

6th. Punctured right side, and removed 4 ounces.

10th. Fits, gums swollen from teeth, scarified the gums; punctured, 4 ounces removed.

Tuesday, 13th. "The child has had no fits since Saturday, and every thing promises success, but we appear to make little progress in consequence of the irritation of teething."

The record of this very interesting case closes here.

ART. XIII. *Case of Hydrorachitis treated by Puncture.* By PROFESSOR ANDREW VACCA.

This case occurred in Pisa, the subject was a child six years of age. A tumour had existed from birth between the last lumbar vertebra and first portion of the sacrum. It was oval, soft, circumscribed, contained a fluid, was not discoloured, and of the size of a common orange. The fluid could be made to mount through the spinal canal by pressure, and temporary apoplexy could in this way be produced.

28th November, 1818. Signor Vacca punctured the tumour by means of a cataract needle, and there escaped 4 ounces (Tuscan) of a rather dense fluid. Adhesive straps were applied and pressure made on the tumour. This was done through the whole treatment.

5th December. Tumour again punctured and a fluid similar in quantity and quality drawn off. Slight fever, and a restless night ensued.

12th. Same operation and similar result. The fluid was more mixed with blood than before, rather more fever, with delirium at night.

24th. Puncture, two ounces only, and thicker. No inconvenience followed.

January 6, 1819. Tumour punctured, 2½ ounces of a bloody fluid removed.

15th. Same operation and result.

22. Three ounces more bloody.

February 12. Operation with a needle of a line in diameter, same quantity of fluid drawn, without the least inconvenience.

On the 25th, February, 13th, 19th, 30th, of March, and on the 16th April, operation repeated with similar results. The patient much better, stronger and plumper. The symptoms, paralysis of the extremities, &c. yielding. The fluid however continued to accumulate, and was at various times discharged off till the second of December, when from appearing perfectly well, she was attacked with fever, which could not be subdued and under which she died the 11th of the same month.

In this attack no symptoms were present which could be referred to the state of the spine or brain. The mind was clear, and no paralysis of the extremities existed.

Our limits will not allow us to give the result of the examination made after death.

The following articles are extracted from the *Medico-Chirurgical Review and Journal*, for September 1821.

Baron Larrey's Russian Campaign.

Emphysema.—‘A Polish officer, who had been wounded about 24 hours, was brought to Baron Larrey, his whole body swelled, to an enormous size, by general Emphysema. The skin was so distended that his limbs were completely inflexible, and all appearance of the joints effaced. The eyes were covered, and the lips so tumefied that nothing could be got into the mouth. The pulse and respiration were scarce perceptible—the anxiety extreme, the voice feeble and interrupted—in short, this officer appeared to be in the most imminent peril. A cossack’s lance had entered obliquely under the inferior angle of the left scapula, and wounded the lungs. Although the external and internal orifices of the wound were far from being parallel, the surgeon had applied adhesive plasters, and closed the external opening. The air constantly escaping from the lungs, had therefore distended the whole cellular tissue of the body. The Baron tore off the dressings, cleared the wound of all transverse filaments or frænula (bridges) and thus rendered the openings in the pleura and integuments parallel.* Cupping glasses were applied over the wound, which were quickly filled with air and blood. The lips of the wound were then brought together, and maintained by proper bandages. Cupping glasses and scarificators were next applied successively over all parts of the body to which they could have access; and where they could not, incisions were made with the knife. By this treatment the officer was snatched from the jaws of death, and ultimately recovered perfectly.’

Gun shot fracture of the Femur.—‘Count Sackoveninsk, a Russian colonel (a prisoner) was carried, with several of his countrymen, to the general ambulance. He had received a musket bullet just above the left knee, which fractured the femur and lodged under the integuments of the ham. M. Bancel, after extracting the ball, was about to dress the wound and apply the fracture apparatus; but Larrey was first requested to

* The French term for clearing a wound in the above manner is “*debridement*,” which we cannot otherwise translate than by the awkward phrase “*unbridling*,” a wound. For conciseness, however, we shall probably, in this article, use the word “*debride*,” or “*debridle*,” hereafter, to signify the above process.—*Rct.*

see the Colonel. On a slight view there appeared nothing particular or very dangerous in the case; but on more accurate investigation the Baron had reason to believe that a perpendicular fracture extended down to the knee joint, separating the condyles of the femur. He therefore hesitated not to propose amputation. The surgeons present opposed the Baron's proposal, and the colonel was undecided. After a few moments reflexion, however, this officer peremptorily requested Baron Larrey to take off the limb. He did so, and dissection shewed the condyles separated, the knee joint filled with black blood, and the popliteal artery lacerated. Three other similar cases presented themselves on the same day.'

Mode of amputation in Saxony.—'In describing the cases of some wounded men in the hospitals of Dresden, the Baron informs us that the practice of the Saxon surgeons, in amputations, was, to cut the integuments and muscles at one incision, down to the bone, the latter being sawn off very little above the level of the soft parts. The surfaces of the stumps were then brought into close contact, and thus retained by sutures and bandages. The tourniquet was then, and not till then, slacked off. No arteries were taken up, and no hæmorrhage, in general, ensued.'

Extensive injury of the integuments of the Cranium.—'In May 1812, near Berlin, a store-keeper was run against by a carriage going very rapidly, and had his head dashed against a sharp stone, which stripped the skull of integuments, and in some places, of pericranium, from the forehead to the tuberosity of the occiput. Immense flaps of integuments hung down over the neck and the ears. There was found a stellated fracture of the left frontal bone, one line of which was continued into the parietal bone of the same side. There did not appear any depression or displacement of bone. The man had a great hæmorrhage from the nose and ears, and preserved his senses. He was dressed in a clumsy manner, and great masses of charpee had been put between the flaps and cranium. The following day, being very ill and delirious, with acute pain, hard quick pulse, and flushed countenance, Baron Larrey was sent for. He removed all the dressings, and freely scarified the inflamed integuments. Common emollient dressings were applied, the patient was bled from the foot, and laxative drinks and lavemens exhibited. The attendant surgeons had the trephining apparatus all ready when the Baron arrived; but the operation was deferred. The means abovementioned removed the pain and delirium, and the patient remained tranquil till night, when new symp-

bled from the jugular vein, and had mucilaginous, sedative, and antispasmodic drinks prescribed, by which he was relieved, and passed the night quietly. During the two succeeding days there were strong febrile movements in the system; but a sero-purulent discharge was soon established in the wounds, and became abundant, accompanied with much debility. A low fever was now ushered in with shiverings, pains, and nausea; succeeded by intense heat, thirst, and head-ache. Ice-cold applications were made to the head and surface of the body, with cold drinks, &c. The alarming symptoms subsided, and were succeeded by some bilious vomitings and involuntary stools. This moment was seized for the exhibition of an emetic, which evacuated the stomach and bowels of great quantities of fetid matters. In the following night there was another severe exacerbation, with fixed pains in the forehead, and delirium. Cupping glasses with scarificators relieved these symptoms greatly, and ice-cold applications were kept to the head: Next day the pyrexial symptoms had entirely subsided, but such alarming debility succeeded, as gave our author reason to apprehend typhoid fever. A large blister to the nape of the neck; and bark with infusion of *arnica montana* internally. Some wine was also allowed. Next day, (the 26th of the accident,) the patient appeared perfectly sensible, and the wound was filling with healthy granulations. From this time he slowly, but progressively, recovered.'

Hernia Cerebri.—'What is the cause of this phenomenon? Without pretending to ascertain this exactly, Baron Larrey hopes to point out the road towards truth. He considers this protrusion as owing to an inordinate excitement of the vessels of the membranes and brain in the vicinity of the wound, caused either by the irritation of foreign bodies, or the access of atmospheric air. He has never seen recoveries from large herniary protrusions of this kind; and the means taken to cure the complaint, such as compression, excision, caustic, &c. always aggravated or accelerated the evil. The Baron therefore advises surgeons to defend the hernia from the external air by pieces of fine linen soaked in camphorated oil; to remove all foreign and irritating bodies; and to lessen general and local irritation of the system, and of the brain, by diluent drinks, laxatives, quietude, &c. By these means Nature will herself reduce the hernia, when it is reducible.

We may take this opportunity of stating that Mr. Astley Cooper has long treated *Hernia Cerebri* with considerable success—that is, with success in three cases out of four, in

the following manner:—if the hernia protrude but little beyond the level of the integuments, a dossil of lint dipped in lime-water is applied, and over that the capular bandage, with a moderate degree of pressure. If, however, the hernia protrude farther, and overlap the surrounding integuments, a silk thread is passed round the tumour and drawn tight so as to cut the vessels, and, in fact, remove the protuding portion. After this the dressing and moderate pressure are applied as above described. Mr. Cooper has been so kind as to inform us that in *young* people the foregoing plan will be crowned with success in the great majority of cases; but in *old* people it will be very much otherwise—for in them, all accidents about the head are dangerous, and too often fatal.'

Case of wound of the throat.—'An infantry officer presented himself with a gun-shot wound situated in the left side of the larynx, and taking a direction downwards and inwards, passed under the thyroid cartilage, which appeared slightly injured. The track of the ball appeared to descend under the trachea towards the chest, where the projectile was lost. The patient was harrassed with a constant oppressive pain, and difficulty of respiration, accompanied with redness of the face, turgescence of the neck, impossibility of swallowing solid food, and great difficulty in swallowing liquids. The probe gave no indication of the seat of the ball, but the patient always pointed to the site of the cricoid cartilage as the point of suffering. Notwithstanding the vicinity of the thyroid arteries, Baron Larrey enlarged the wound upwards and downwards, without however procuring any advantage. He therefore concluded that the ball was lodged behind the bifurcation of the trachea, and not in any part of the cavity of the larynx. A few days afterwards the ball presented itself at the bottom of the wound, and was fortunately seized with the forceps and extracted. From this moment the patient was relieved, and went out of the hospital cured.'

Case of wound of the Chest.—'A young voltigeur of the ex-guard received, in one of the battles near Paris, a musket shot, which cut away the upper half of the fourth rib, at about an inch from its sternal cartilage. The ball penetrated into the chest—traversed a portion of lung—and struck, without doubt, the spinal column, about the eighth or ninth vertebra, where its progress was arrested. This wound was accompanied with hæmorrhage extravasation of blood, frequent faintings, oppression, anxiety, and spitting of blood—in fine, the patient said he was certainly

going to die. He was transported to the Ambulances, in the vicinity of Paris, where he remained till the month of August of the same year, at which time he was sent to Gros Caillou, and came under the care of our author. At this epoch the patient presented a fistulous wound at the upper part of the right side of the chest, with evident empyema of that cavity. He was greatly exhausted and worn down by the hectic fever. The wound discharged, at each dressing, a considerable quantity of pus, which the patient himself expelled by a particular position of the body. His emaciation was extreme, and the fever exacerbated in the evenings. Baron Larrey introduced a flexible sound into the wound which went to the bottom of that side of the chest, without any resistance, and there struck against a hard body, which the Baron judged to be the ball. From its position our author judged it practicable to open into the thorax opposite the foreign body, and between the eighth and ninth ribs, counting from above. The operation for empyema being performed at the abovementioned place, about twelve ounces of pus came away, and the Baron discovered the ball, which was easily extracted by a pair of polypus-forceps, the intercostal space being ample and the ball rather flattened. The operation was followed by some formidable symptoms, but they were subdued in three days. The purulent discharge was considerable, but only issued from the inferior wound, the superior soon healing. Bark, in various forms, was administered, and the purulent secretion diminished daily, with evident restoration of the vital and natural functions—in short, this young soldier was on the point of being discharged cured, when, having committed a debauch in brandy, he was seized with enteritis, and died, one hundred days from the operation, and six months from the receipt of the wound. The dissection confirmed the suspicions of Baron Larrey relative to the first track of the ball.'

Case of wound of the Abdomen.—'A young officer was carried to Gros Caillou in August 1815, apparently expiring, with a sword wound penetrating the abdomen, accompanied with hæmorrhage, protrusion of the omentum, and injury of the stomach. Baron Larrey was called up to him in the middle of the night, and found a wound, about an inch and a half in extent, at the inferior part of the right hypochondrium two inches from the cartilage of the eighth rib—a considerable portion of epiploon being protruded and strangulated by an irregular wound through the abdominal muscles. The pulse was feeble, the extremities cold, the vomitings frequent, the anxiety extreme, with hiccup, loss of voice and power of articulation—in short, every appear-

ance of approaching dissolution. It was not deemed advisable, under these circumstances, to attempt any operation. The night was passed in great distress; nevertheless, in the morning, the pulse and animal heat were, in some degree, restored; but the local pain was very acute, with bloody vomiting and hiccup. Baron Larrey now enlarged the wound of the integuments, without touching the omentum, which was thus liberated from strangulation, and the vomiting, &c. ceased. This done, the Baron enveloped the exposed omentum (as large as an apple) in linen soaked in warm wine—placed the patient in a proper position—prescribed acidulated drinks, lavemens, and embrocations to the abdomen. The alarming symptoms now subsided gradually, and after the fifth day he appeared out of danger. After the first 24 hours, the protruded epiploon swelled to nearly the size of one's fist, being red, rugous, and evincing signs of sensibility. It remained in this state till about the 10th day, when it began to diminish in volume and density, which was accelerated by graduated pressure through the aid of a compress. The epiplocele returned by little and little, till the whole was drawn into the abdomen, the wound cicatrizing as the omentum retreated. The officer was perfectly recovered by the 45th day from the accident.'

Case of wound of the Bladder—'A chasseur of the ex-garde was struck in the upper and outer part of the thigh by a co-sack's lance, while in the act of a cavalry charge, the point of the lance glancing upwards and inwards, passing the inguinal glands, under the crural arch, and penetrating into the bladder, below the reflection of the peritoneum. The urine immediately followed the direction of the wound, and appeared at its orifice in the thigh; a few hours after which, the water was passed by the urethra with a considerable quantity of blood. To this hæmorrhage a state of quietude succeeded, the urine not appearing any more by the wound, the edges of which were brought into contact by proper dressings. Suppuration and an abscess became established in the track of the wound, and, when opened, a quantity of pus and urine was discharged—the wound remaining fistulous for some considerable time. Nevertheless, by means of the elastic catheter in the urethra, and proper dressings, the patient was conducted to perfect recovery.'

Case of Wound of the Arteries.—'A young soldier of the ex-garde received a gun-shot wound in the left thigh, at the battle of Dresden, in 1813. The ball had traversed the lower third of the member from within outwards, de-

stroying the femoral artery a few lines above where it passes through the triceps muscle. A considerable hæmorrhage took place at the moment of the injury, to which succeeded faintness, and abolition of pulsation in the popliteal artery. After scarrifying (*débridé*) the anterior wound, and removing some clots of blood that occupied the space between the two wounds, our author introduced his finger, and a void, where the femoral artery before ran, was now felt. Above the void, the torn and contracted extremity of the vessel was felt pulsating. As there was no appearance of new hæmorrhage, Baron Larrey contented himself with a simple dressing, and resolved to wait the event. No hæmorrhage occurred, and the wounds were both healed by the 61st day from the accident. The circulation in the extremity was gradually re-established, but no pulsation returned in the popliteal artery.'

'Daniel Hyppolite, a sergeant in the royal garde, received the thrust of a sword in the upper part of the right thigh, on the 9th of April, 1817, the weapon entering about three inches and a half below the anterior inferior spinous process of the ilium, and penetrating two or three inches in a horizontal direction inwardly, in the site of the femoral artery. The blood issued *per saltum*, in great quantity, and syncope put an end to the flow. Next day the hæmorrhage returned, with the same phenomena, and was restrained with the greatest difficulty. The patient was now sent to the hospital of the garde, and Baron Larrey visited him, when the following circumstances were noted:—viz. a tumour in the right groin the size of one's fist, extending from the anterior inferior spine of the ilium to the pubis, of a bluish colour, and pulsating synchronously with the other arteries. The patient experienced a sense of coldness in the leg and foot of that side, and a sensation of much heat in the tumour itself. A febrile movement was evident in the sanguiferous system. He was bled from the arm, and the operation repeated twice within the first twenty-four hours. He had cold drink for beverage, with a cold cataplasm to the tumour, while the limb was wrapped in hot flannel. Perfect rest and the horizontal position were enjoined. In two or three days the symptoms were mitigated, and the tumour began to diminish in size, the pulsations concentrating, and growing more feeble. Ice, inclosed in a bladder, was substituted for the cataplasm. The reduction of the tumour was succeeded by an acute pain in the knee and leg of the same side. The pulsations of the femoral artery in the thigh and at the ham had become greatly enfeebled, while the articular artery on the

inside of the knee joint was felt beating very strongly. These considerations led to the belief that the crural artery was obliterated in a great part of its extent, and that a new line of circulation was established by anastomosing vessels. Nevertheless, the pulsation gradually returned in the femoral artery, while the increased size and action of the articular branches progressively decreased, evincing a restoration of the original channel of the circulation.'

*Extra-Uterine Conception.** Among the aberrations of Nature (which fortunately are rare in the generative process) none are so truly deplorable as extra-uterine conception. The following case presents many points of interest to the pathologist and physiologist, which we deem it proper to record.

'Dominica, Mirone, 23 years of age at the epoch of her marriage, was, before that period, subject to vomitings, fluor albus, and hysterical affections. Seven years after marriage she became a mother, at the regular time. She had afterwards a seven month child. In December 1817, she became pregnant for the third time, and this pregnancy lasted sixteen months. In the second month she had some shew of the menses—in the third month she experienced pains in the lower belly, and a considerable serous discharge from the uterus. From the fourth to the thirteenth month she menstruated irregularly. In the fifth month she felt the *fœtus*; in the seventh very distinctly. These movements continued till the thirteenth month, principally in the left side. The breasts became enlarged in the sixth month, and furnished some milk in the seventh. In the twelfth month the breasts subsided to their original dimensions. About this period the woman felt what she conceived to be labour pains. In the thirteenth month a uterine hæmorrhage took place, and lasted some days. At different periods of the extra-uterine pregnancy she suffered dreadful colicky pains—frequently she had fever, and bilious vomitings. In the sixteenth month she was seized with acute fever, and died with symptoms of peritonitis.'

Dissection. On opening the abdomen, Dr. Rizzo found the peritoneum inflamed, and some gangrenous spots on it. A large and oval body was discovered in the abdomen, containing a *fœtus* enveloped in its membranes which were gangrened and burst. Two hydatids were attached to the chorion, containing a yellowish fluid. The chorion had contracted adhesions with all the neighbouring parts, especially the epiploon, colon; posterior face of the uterus, &c. The placenta was attached to

* Memoria sopra una gravidanza estra-uterina. Par LAURENT RIZZO.

the peritoneum covering the vertebral column. The situation of the fœtus was that of a natural pregnancy. The uterus was perfectly sound and natural. The left ovary presented nothing remarkable—the right one was obliterated.

Cubebs.—Extracts from a Review of Mr. Jeffrey's practical observations on the use of this article in the cure of Gonorrhœa.

'The *Cubebs* pepper is indigenous in Java, being found in the woods near Batavia. It is also met with in the Isle of France and other parts of the East. The berries grow in clusters, like currants, and when dried have a wrinkled surface, light brown colour, warm, pungent, aromatic, and slightly bitter taste, but much milder than common pepper. A tincture may be made (*cubebs* 3iij. sp. vin. ten. Oj.) possessing all the virtues of the berry. Taken into the stomach, the *Cubebs* does not appear to produce any very particular or predominant action on the system. Like other spices it is warm and stimulant—in some constitutions it proves mildly aperient, "probably by giving tone and vigour to the bowels, in the same way as the celebrated Ward's paste." In others it has a contrary effect, and requires a laxative occasionally during its exhibition. In some persons to whom our author has administered it, headache and nausea were induced.'

"When given in large doses, as a drachm and a half or two drachms of the powder four times in the day, it appears to increase the secretion of urine, which assumes a deeper tinge of colour than usual, is voided somewhat more frequently and in larger quantity at a time, and acquires a peculiar and slightly aromatic odour, which is not unpleasant."

'Of the *modus agendi* of this medicine in gonorrhœa, Mr. J. professes his ignorance. We might all say the same thing respecting the greater number of medicines in the pharmacopœia. Its agency appears to Mr. Jeffreys to resemble that of *copaiba*.

"It possesses, however, what may justly be called a specific power in most constitutions, especially when administered in the early and acute form of the disease. It moderates the inflammatory and most painful symptoms, and suppresses the quantity of the discharge in a shorter time, and with more certainty, than any other remedy with which I am acquainted. I have reason to believe, that its exhibition is rarely, perhaps never, followed by any of those consequences, which so often take place under the more ordinary modes of treatment, when the discharge is suddenly checked, such as irritation in the bladder, strangury, swelled testicle, &c. It has not, at least,

occurred to me to witness any of these accidents in my experience of the remedy ; and, as far as I have been enabled to observe, it is in the more inflammatory forms of the disease in which its efficacy is most certainly displayed."

'The good effects of Cubebs, in cases where it is serviceable, commonly begin to manifest themselves within 48 hours after the first dose. Unless some material relief is obtained in the course of five or six days, 'its continued administration will rarely be attended with advantage.' The period of cure, in successful cases, has varied from two or three days to a fortnight or more. In many cases, Mr. J. observes, it has proved to be of considerable efficacy where other remedies had been tried in vain, and where the disease was of some standing.

"Out of the first twenty-one cases in which I prescribed it, taken indiscriminately as they occurred, fourteen were cured, four relieved, and in three it failed. Of those in which it appeared to afford only a partial relief, the want of complete success may fairly be attributed to some irregularity or inattention in the patients' mode of living, or to a carelessness in taking the medicine. Nevertheless, one important advantage has appeared to me to be derived in these cases from the administration of the Cubebs, which is, that the symptoms afterwards yielded with greater facility to *copaiba* than under ordinary circumstances."

'Although there appears no good reason why Cubebs should not be combined with other medicines in gonorrhœa, yet Mr. Jeffreys did not find that any material advantage was derived from the combination. When the more urgent symptoms were allayed, the cure appeared to be accelerated by a mildly astrigent injection. Gleet, one of the most common and intractable sequela of gonorrhœa, under ordinary circumstances, will be found, Mr. J. thinks, a less frequent consequence of the disease when it has yielded to Cubebs. Mr. J. administered the medicine in water, the patient being, in every instance, enjoined rest and an abstemious diet—an injunction but seldom strictly attended to. The dose, we observe by the cases, was, from a drachm to a drachm and a half, three or four times a day.

"Upon the whole, I trust I have adduced sufficient facts to convince the candid reader, that, although the Cubebs pepper may not be entitled to the rank of a *specific* in the cure of gonorrhœa, it has nevertheless a better claim to that distinction than any medicine that has hitherto been made use of in the treatment of the complaint ; and that, at any rate, it furnishes the surgeon with a remedy of great power, which may be applied

in all cases without risk, and in many with a fair chance of a *speedy and permanent cure*."

'The cases, which are 27 in number, appear to be faithfully detailed, the unsuccessful as well as the successful—a mode of conduct which is very praiseworthy. Our author, at the end of the cases, informs us that, as far as he has hitherto been able to ascertain, "there is no symptom attending gonorrhœa which contra-indicates the use of Cubebs." He has not scrupled to prescribe it in all the stages, and under all the circumstances of the complaint, without seeing any reason to repent of so doing. He considers it absolutely necessary that the Cubebs should be freshly powdered, and free from adulteration. It is of great importance also, that the medicine should not be left off too soon after the symptoms have disappeared.'

Med. Chi. Rev. and Journal.

The following Extracts are made from a review of Mr. Sandwith's observations in Medicine and Surgery, in the London Medico-Chirurgical Review and Journal for September, 1821.

On Contractions in the Neck.—Mr. Sandwith thinks there are contractions after burns, for the removal of which Mr. Earle's method of excision cannot be employed; and he introduces two cases to prove his assertion.

In the first case, the chin was found adhering to the sternum, and had been in that situation twelve months. The substance, covering the front of the throat and constituting the bond of union between the parts above mentioned, consisted of a material, resembling gristle. The face was greatly deformed by the accident. An incision was made through the cicatrix half an inch deep and four inches in length. At first only the space of an inch and a half was obtained; but by confining the chest and throwing the head backwards in bed, the whole lost space was restored, and the countenance resumed its original appearance. After a while a collar was put round the neck. This was made of unyielding materials, and its size increased every third or fourth day, which by tearing open and retarding the too rapid healing of the skin, had the effect of completing the cure.

The general appearance of the second child was still more formidable than that of the first.

'The face had suffered more; the shoulders almost touched the ears; and the collar-bones were nearly dislocated; in ad-

dition to which, a contraction, like a leather thong, held the forearm at an acute angle with the arm.'

'A greater number of vessels were wounded during the operation, and the external jugular veins being massed in the cicatrix, were both divided. The progress of the cure was frequently interrupted by sloughing, and the discharge was excessive. Nevertheless, after five months attention, both to the wound and the constitution of the patient, it was completed.

'Upon the arm the operation described by Mr. Earle was performed, and succeeded admirably.'

An operation, which reflects great credit on Mr. S. was performed also on a contracted and diseased mastoid muscle, with success. The contraction followed scarlatina. On the third day intense pain in the wound came on, and the patient was in imminent danger; the functions of the brain and head being disordered. Suppuration however coming on, and a free discharge following, every thing afterwards went on well; and by the aid of the collar, a cure was obtained.

On Diseases of the Sublingual and Submaxillary Glands.—The nature and treatment of kamila is well known. The inflammation of the suppurative kind, which attacks the sublingual and submaxillary glands is always tedious, and often alarming. We have seen high fever, delirium, subsultus tendinum, and extensive sloughing of the cellular substance, and of the platysma myoides, as well as the loss of several teeth on the lower jaw, follow this disease, when a timely opening has not been made. Mr. S. most judiciously advises a depending aperture to be made under the chin with the view of draining off the pus, and of preventing it from becoming acrid and offensive, and thus obviating the disagreeable and dangerous consequences we have mentioned. Whenever purulent matter is confined by a fascia, it should always, if possible, be evacuated by an operation, both to prevent the destruction of the adjacent parts, and the accession of irritative fever. In proof of the good effect of this practice, Mr. S. adduces two cases, which are highly creditable to himself and his friend Mr. Brereton.

Account of a Case of Cynanche Laryngea, in which the operation of Tracheotomy was performed with success.

A robust woman, aged thirty, was admitted into the Whitworth hospital, affected with a dull pain in the region of the

larynx, and a sensation of constriction about the os hyoides and epiglottis, which greatly impeded respiration.

On examination, she was found to labour under cynanche laryngea. The symptoms, in the course of the following day, ran so high, that, being threatened with immediate suffocation, Mr. Carmichael instantly proceeded to perform the operation of tracheotomy, consisting in making an opening between the inferior edge of the thyroid gland and the superior extremity of the sternum.

The external incision was about an inch and a half in length, and the hæmorrhage was so inconsiderable that there was not more than half an ounce of blood lost during the operation; for, owing to the steadiness of the patient, and a clear light, the large veins on the fore part of the trachea were distinctly seen and avoided. The incision into the trachea was first made by dividing the membranous substance between two of the rings; then the inferior of the two was divided by a perpendicular incision, and this opening was enlarged by laying hold of one edge of the divided ring with a forceps, drawing it forwards, and cutting off a slice with the knife. A similar piece being removed from the other edge of the divided ring, a square opening was left, sufficiently large not only for the easy passage of air, but of mucus—a circumstance of the greatest moment with respect to the success of the operation, for if the opening should not be large enough to admit of the expulsion of mucus, a recurrence of a state of suffocation must ensue from its accumulation in the trachea and larynx, as there is little chance of its being expelled by the glottis, now that the patient breathes through the wound in the trachea.

In a little more than three weeks after the operation, not only had the original disease subsided, but the wound having gradually cicatrized, healed perfectly, and the patient was discharged well.

Lond. Med. Intel.

On the Antiseptic Power of the Pyroligneous Acid upon Fresh Meat, subjected to a Sea Voyage and a Hot Climate. By J. STANLEY, M. D.

DR. STANLEY was anxious to ascertain how far the antiseptic power of the acid from wood would enable meat to travel to hot climates, and perform long sea voyages, without putrefaction. The result of his experiments, which fully proved the affirmative in the above supposition, is thus related by the author:—

‘ Having previously made several experiments with the above-named acid, the results of which were favourable, on the 6th

of October, 1819, I prepared two pieces of fresh meat (beef) with the purified acid, applying it lightly over their surfaces by means of a small brush. After hanging up in my kitchen till the 12th of November following, I gave one of the specimens to the captain of a vessel bound for the West Indies, with directions to observe and note any change that might take place during his voyage, and to bring it back to me on the return of his ship to port. In the month of October, 1820, he restored me the specimen. He had examined it several times on the voyage out, and during his stay of some months at the island of Tobago, as did several gentlemen resident there, but no perceptible change could be detected. On comparing it with the specimen kept at home, I could observe no sensible difference in their appearance. On the 21st of December following, I caused both to be thoroughly boiled, and, when served up, they were declared by several gentlemen who tasted them with me, to be perfectly fresh and sweet, and, with the addition of salt and vegetables, a palatable and wholesome dish.' *Med. Intel.*

Captain Browne has described a hitherto unknown worm which is found in the eyes of horses in India, under the name of *ascaris pellucidus*. The head is slightly subulate, with the extremity somewhat obtuse; body smooth, pellucid, of a bluish-white colour; thickest at the centre, and gradually tapering towards the head, and abruptly towards the tail, which terminates in a sharp point; its diameter not being more than one-fourth of the head. Length, 1½ inch. *Ib.*

A paper was read before the Cambridge Philosophical Society, by Dr. Haviland, giving an account of the case of a young man who died on the 17th of December last, of a fever of the common continued kind, which was unaccompanied by any unusual symptoms or remarkable affection of the abdominal viscera. An examination was made about twelve hours after death, when the upper and back part of the stomach was found corroded in two places, where the coats of the organs were entirely destroyed. The larger opening communicated with a corresponding hole in the diaphragm, through which the greater part of the contents of the stomach had escaped into the cavity of the thorax. Scarcely any thing had been swallowed by the patient for more than twelve hours preceding his death. *Ib.*

It is announced in the *Journal de Médecine Pratique* of Berlin, that the *Belladonna* is a preservative against scarlet fever.

This fact was first noticed at Leipsic, but it has lately been confirmed by several experiments. *Ib.*

Dr. Jorg, a Prussian, has preserved mummies and anatomical preparations in perfection, for several years, with the empyreumatic oil from the distillation of wood, and with pyroligneous acid. Pieces of flesh already advanced in decay, smeared once with this preparation, soon became dry and sound. *Ib.*

That very accurate and sensible practitioner, Dr. Uwins, has the following edifying note respecting the powers of prussic acid: 'Of the lately much lauded remedy in pulmonary and other irritations, the prussic acid, the reporter has not hitherto made sufficient trial to justify any decided opinion as to its merits. It is always with some measure of scepticism that he hears the announcement of these novel and potent remedies. From one or two of his friends, however, in whose skill and discernment he places every confidence, he has heard such favourable accounts of the medicine in question, that he purposes to embrace the first favourable opportunity that shall offer for putting its alleged virtues to the test of his own experience.'

Ib.

M. Van Dam, surgeon at Alckmaar, performed the Cæsa-rean operation, in December last, on the wife of J. Hoek, aged thirty years, who had been seized two years and a half before with labour pains at the full term of her pregnancy, when, after many ineffectual efforts, the uterine contractions ceased, and she no longer felt the movements of the child. From that moment the patient experienced more or less pain in the uterine region; which at last increased to such a degree that her life was considered to be in a danger, unless immediately relieved. It was under these circumstances that the operation was performed, by which the skeleton of a child was removed from within the womb, the mother recovering in a short time afterwards. *Ib.*

The *Museum Anatomicum*, founded by Professor Lobstein in the University of Strasburgh, has lately been presented by that eminent practitioner to his native town, for the accommodation and instruction of those who study surgery in that University. This is by far the richest establishment of the kind in all France, after that of the Garden of Plants in Paris. It contains 3286 new preparations, all made by M. Lobstein himself; 1977 of which are illustrative of human and comparative anatomy; while 1309 of them are intended to elucidate many very remarkable cases of pathological anatomy. *Ib.*

We have been informed by a correspondent who has witnessed some of Sir W. Adams's dissections of the eye, that he has clearly demonstrated the tunica aranea to be in no degree concerned in retaining the crystalline lens in situ, as has hitherto been taught in our anatomical schools; but that it is so retained by a membrane of a very peculiar structure, respecting which, little, if any thing, was known in this country prior to Sir W. Adams's demonstrations at the York Hospital, three years since. *Ib.*

The directors of the Lunatic Asylum at Konigsberg have established the game of nine-pins, for the amusement of the unfortunate inmates. The desire of winning, as well as the anxiety displayed in taking good aim, and the interest excited in counting, with precision, the number of skittles overthrown, oblige the players to fix their thoughts upon a particular object. Order and tranquillity have already succeeded the noisy confusion which first attended the opening of the games, and happy results are expected from this experiment. *Ib.*

Dr. Pertier, a German physician, states, that he has found the spirit of hartshorn, (in the dose of a small tea-spoonful in a glass of water,) to counteract the inebriating effects of fermented liquors and spirits.

M. Dudit de Maizieres, a French officer of the king's household, has invented and practised with great success, a method of making bread of common apples, very far superior to potato bread. After having boiled one-third of peeled apples, he bruised them, while quite warm, into two-thirds of flour, including the proper quantity of yeast, and kneaded the whole without water, the juice of the fruit being quite sufficient. When this mixture had acquired the consistency of paste, he put it into a vessel, in which he allowed it to rise for about twelve hours. By this process he obtained a very excellent bread, full of eyes, and extremely palatable and light. *Ib.*

Two new remedies against burns have lately been brought to notice. The one consists in applying virgin cotton (from the pod) to the burn, immediately after the accident. It takes off the pain, and prevents suppuration. It is commonly practised in South Carolina. The other is sulphuric æther, which, if applied to the part, will prevent vesication, and all the ill effects of burning, in the promptest and most efficacious manner. *Ib.*

Extract from a letter, from J. S. Rogers, M.D. of New-York to one of the Editors.

THE following case occurred to me during my attendance on a dispensary patient, and as there are few, if any, parallel instances on record, it may probably be of sufficient interest to command a place in your journal. D. P. a boy aged 7 years, applied for vaccination, about the middle of last September; as I was unable at that time to procure any fresh infection, I employed a portion of scab taken in the year 1815, to inoculate him and seven other patients for whom application was made at the same period: the seven cases failed to take the disease; but on this boy's arm the vesicle formed regularly, went through its ordinary course, and communicated the disorder to a number of children who were innoculated from it.

Department of American Medical Literature.

LIST OF AMERICAN MEDICAL PUBLICATIONS, AND OF WORKS IN THE PRESS.

Charles Ewer, Boston, will shortly publish a work, in one volume octavo, entitled, a Sequel to the Pharmacopœia of the United States, being an account of the origin, qualities, and medical uses of the articles and compounds which constitute that work—with their modes of prescription, and administration. By Jacob Bigelow, M.D. author of the American Medical Botany, and one of the publishing committee of the Pharmacopœia.

This work will be printed with a paper and type corresponding to those of the Pharmacopœia, to which it may be appended, as a second volume. As the sale of the copy right of the Pharmacopœia prevents the introduction of its contents into Dispensatories, the present work is intended to supply any deficiency which may arise from this source, and to present, in conjunction with the Pharmacopœia, a system of Materia Medica and Pharmacy for the United States, adapted to the present state of medical and chemical knowledge.

The proprietor of the American Medical Recorder is about to put to press an Elementary Summary of Physiology, by F. Majendie. Translated from the French, by a member of the Medico-Chirurgical Society of London, 2 vols. 8vo. with additions, by an eminent practitioner, 2 vols. in one.—*American Recorder*

The Physician's Pocket Synopsis; affording a concise view of the symptoms and treatment of the Medical and Surgical diseases incident to the human frame. Compiled from the best authorities, with references to the most approved modern authors. Together with the properties and doses of the simples and compounds of the national Pharmacopœia of the United States. Alphabetically arranged. By J. S. Bartlett, M. D. of the Royal College of Surgeons, London; Fellow of the Massachusetts Medical Society, &c. To be published by Munroe and Francis.

The translation of Bichât's General Anatomy, by Dr. George Hayward, announced in a former number of this Journal is nearly completed, and will very soon be put to press.

We understand that Messrs. Lockwood's booksellers in New-York, have put to press, Dr. Paris' Pharmacologia. The American will be printed from the latest London edition.

Messrs. Wells Lilly have in press, and will shortly publish Denman's Aphorisms on the Forceps and Vectis, with an Appendix, by W. Channing M.D. Professor of Midwifery at Harvard University.

A new work on the Diseases of the Teeth, by Dr. Flagg of this place, was announced in a late number of this Journal.

Mr. O. Everett, has just published, *Boylston Medical Prize Dissertations*, for the years 1819 and 1821: Experiments and Observations on the Communication between the Stomach and the Urinary Organs, and on the propriety of Administering Medicine by Injection into the veins. By E. Hale, Jr. M.D. M.M.S.S.

For a notice of Dr. Hale's Dissertations, see the last number of the Journal.

Note.—The Medical Literary Department, now regularly opened in the Journal, is offered to the medical public, for the purpose of giving early notice of such new works in medicine, or new Editions, as have, or are about to be published in America. Authors and publishers are requested to send, *post paid*, to MESSRS. WELLS & LILLY, such notices as this department is designed to embrace, and they shall be regularly advertised.

NOTICES TO CORRESPONDENTS.

Dr. Lyman's Case of Difficult Labour has been received and will appear in the next number.

Dr. North's paper on a method of cutting for the stone, has also been received, and will appear in the next number. An earlier insertion would have been given these articles, had they been received before the materials of the present number had been determined on.

The New England Journal

OF

MEDICINE AND SURGERY.

Vol. XI.

APRIL, 1822.

No. II.

[To the Conductors of the New England Journal of Medicine and Surgery.]

GENTLEMEN,

The following Essay was written at the time it bears date, with the exception of some trifling alterations. But owing to a cause not necessary to mention, I have hitherto been prevented from sending it to you for publication. E. NORTH.

New London, (Conn.) 17th Dec. 1821.

An attempt to demonstrate, that the Bladder may be opened for the extraction of the stone, by a posterior method of operating, more conveniently to the surgeon, and with much greater safety to the patient, than by any other method hitherto discovered. By ELISHA NORTH, M.D. Author of a Treatise on Spotted Fever.

THIS subject may be illustrated by first showing, in detail, the manner in which the operation is to be performed, and exhibiting the advantages which may result; and then obviating such objections as may arise.

The reader is supposed to be well acquainted with the anatomical structure of the parts concerned in the operation of lithotomy, and with all the methods which have hitherto been contrived for performing the same; otherwise what is written may not be intelligible to him.

If the writer had the benefit of suitable plates, it would render both his and the reader's task more easy.

A suitable table of convenient height and breadth is to be provided, and from the legs of the same let there be projections of wood at one end. These projections should form

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a right angle with the legs of the table, and may be about the length of the patient's legs—the distance from the uppermost surface of the table, at which these projections of wood should be attached to the legs of the same, may be ascertained by measuring the length of the patient's thigh.

- The table and every thing else being ready, and the previous operation of introducing the long grooved staff being finished, and the staff being secured in its proper situation by the hand of an assistant or other means, the patient may now be put on the table upon his belly, in the kneeling posture, his knees and legs resting upon the projections of wood above mentioned—his thighs should come in contact with the legs of the table—his thighs and legs may now be properly secured in this situation—the penis and staff should hang downwards, near to, and over the edge of the table. The patient's arms may be brought downwards in contact with the fore-legs of the table, and there secured. The fore-legs of the table should be shorter than the hind ones, so that the patient's body may be thrown into the position of the *inclined plane*. His head and face may rest upon a pillow.

If we have expressed ourselves so as to be understood, the reader will perceive, that this position is essentially the same as the one in common use for performing the operation of cutting the *fistula in ano*. And a moment's reflection will, we think, show, that the same position may be proper either for cutting into the bladder through the prostate gland, or for cutting into the rectum, as these parts lie in contact.

A suitable low seat will enable the assistant surgeon to manage the long staff. The operator will be conveniently seated posterior to the patient between his legs. He will now have all the parts on which he has to operate in a proper position for that purpose. He may then make the first or external incision precisely as it is now done, by the best surgeons; and also slit up the membranous part of the urethra in the usual manner, cutting into the groove of the long staff. The common female grooved staff may now easily be introduced into the bladder, taking the groove of the long staff for a guide. This last instrument may now be withdrawn, as the surgeon can have no further use for it.* Or if the surgeon dislikes the female

* We wish to observe that we are aware, that one who was much in the habit of performing the operation of lithotomy might prefer to carry in the common gorget *inverted* upon the groove in the long staff, without the introduction of the straight director. This such an operator might easily do. *All we mean strenuously to contend for is, that our position of the patient ought to have the preference, and that our directions are suitable for the inexperienced operator.*

staff he may furnish himself with a director made like the common grooved director in every surgeon's pocket-case, only a little longer and having a suitable beak at one end, to facilitate its introduction upon the groove in the long staff. All we insist upon is, that the groove in this director should be straight, as every one knows, who knows any thing on the subject, that it is much more convenient for the surgeon, and, we believe, much safer for the patient to carry forward any cutting instrument in a straight direction than in a curved one. It can hardly be necessary to mention that this almost straight director, (the beak part being a little curved,) should be introduced with an alternate kind of motion by which the urethra will be gently stretched from side to side, greatly facilitating the introduction of such an instrument. By turning the groove of this director to one side, the operator is enabled to make, with almost any kind of knife, the true lateral incision in the prostate gland and neck of the bladder. It may be done very well with the common gorget, the beak being ground off, provided he can use that instrument with his left hand.

The advantages obtained by introducing the straight director, are these—it brings the hands of the operator nearer to each other when he makes his incision into the bladder. This gives him more steadiness—he also gains the power of pressing down the bladder at a greater and safer distance from the rectum—it enables him to introduce a common scalpel, if he prefers that instrument to the gorget. The knife, however, should be of sufficient size to make the opening in the prostate gland and neck of the bladder, large enough to admit the finger, as the operator may want to carry in a smaller knife, turned flatwise upon his finger, with which he is to enlarge the wound by *lateralizing* the instrument. It may be proper to mention that it is contended of late that the wound in the prostate gland and neck of the bladder ought not to be too large, lest the *prostate fascia* might be injured.

The reader will now perceive that the parts proposed to be cut are the same, as the best operators have determined should be cut.

Our next object is to show that this mode of operating is preferable to any other. With this view we wish to suggest to the reader the following considerations:—It is well known, that the

We also think proper to remark that a dexterous lithotomist might, without the aid of our table, make a very simple business of this operation upon a resolute patient, simply by putting him upon his hands, elbows and knees upon a couch or some such piece of furniture, placing himself behind.

dread of inflicting pain and the want of suitable habits, owing to the infrequency of performing important operations, are the difficulties with which the surgeon has to contend.

The operations of the mechanic are so often repeated, that he easily acquires the necessary associations, constituting habit. This renders it easy for him to accomplish what he frequently has occasion to do. It is also well understood, that our hands and the association of the muscles connected with them, are such, that we can perform any motion downwards, with more facility, than the contrary way. We can also do a nice mechanical act better with our hands close to us, and near to each other and directly before our eyes, than at arm's length:—we also gain a mechanical advantage by sitting at our ease.

Now it appears to us that many of the foregoing principles in human nature are unnecessarily violated by performing the operation of lithotomy in the manner it has hitherto been done. The surgeon is required to make an orifice into a hollow vessel, for the bladder is nothing more, into or near its under side, and this vessel is so far posterior to the os pubis and os ischium, that these project in his way.* To make this orifice, he has to move his hands upwards, and at times they are at a great and inconvenient distance from himself and from each other. He has also to shift his position in the midst of the operation, his hands, at the same instant, being confined by holding in contact two slippery instruments—and what is still worse, he has to carry in by the sense of feeling principally, that uncouth instrument, the gorget, upon the under side of a curved director; which movement is an inconvenient and unnatural one, besides being a critical one—yet this critical movement is to be performed with his hands at a great and inconvenient distance from himself and from each other. It is not so strange that the surgeon, who is called on to perform such a variety of motions, all of which are so contrary to his natural and usual associations and habits, and that too at *distant intervals*, should consider this the most important and difficult operation in surgery.

* For the scientific reader will recollect that when a perpendicular is erected from the lower extremity of the os coxycx, the bones of the pelvis laying upon a horizontal plane on the back or spine, that the portion of the tuberosity of the os ischium on which we sit, projects about three inches from this perpendicular. Now the opening in the bladder is made in the region of the perineum,—not in the region of the lower or inferior portion of the tuberosity of the os ischium. If the scientific surgeon will place the bones of the pelvis before his eye in the position which we contend is the proper one for the patient, who is to undergo the operation of lithotomy, and carefully attend to what we have written, we believe he will comprehend our meaning without the aid of plates.

Notwithstanding philosophers and surgeons have chosen to perform the operation of cutting into the bladder upon its under side, (except in what is called the high operation,) for, say 2000 years, yet it is perfectly obvious, that were a common mechanic called on to make a similar opening into a hollow spherical body of wood or other substance, he would go to work with his tools upon its upper surface. Were he asked the reason why, he would say because he could do it more handily. He could not give the philosophical one, although he would perfectly well understand the fact.

Many of the foregoing difficulties will unquestionably be obviated by the method we propose. Besides other benefits are expected to result. The surgeon sits at his ease during the whole of the operation—he operates upon the upper surface of a spherical body—the parts on which he operates are near him—his motions are downwards—he sees distinctly all he does—he conveys in his knife upon a straight director—his hands are near himself and near each other—his work is posterior to the os pubis and ischium; hence the danger of cutting the pudic artery is lessened—the rectum is also safe. All the motions of the surgeon are natural and easy—hence self-confidence and consequent steadiness must be the result.

The patient, as well as the surgeon, is more comfortably situated; for he has the power of closely embracing a solid substance during the moments of pain. The common position, as the celebrated John Bell has said, “is a horrid one in the extreme.” The patient is put in the unnatural situation of a half circle upon his back—his hands and feet tied together, and the movements of one who is to inflict pain directly before his eyes.

We now proceed to obviate such objections as may arise. It may be said, and with truth, that none but an anatomist ought to attempt to perform this operation; and that the anatomist is in the habit of dissecting and contemplating the relative situation of the parts in the perineum, and within the pelvis, anteriorly; and that it would be difficult for him to break in upon his association of ideas on this subject. The answer is, teach the young anatomist to dissect these parts posteriorly, i. e. by turning the subject over on the belly, for this is the most convenient way for this dissection, as well as for cutting for the stone, and then his ideas will be correctly associated.

It may be said, that he who manages the long staff may not be so well accommodated. Admit this to be so, the part he has to act is a very unimportant one, compared with that which the operator has to perform, and whose convenience should have the preference in a case of this sort?

The introduction of the long staff in one position and opening the bladder in a different one, may displease the prejudices of some. As, however, the distress of the patient is not thereby increased, we think the objection of little importance.

It may be said that the stone could not be extracted in this way so easily. Now this, we think, cannot be true. If the operator wanted to tap a hollow vessel, which he could not turn over, to draw out a fluid, he would make his orifice near its lower surface. But that is not this case. In this case he wishes to retain the urine to keep the bladder distended, until he can hunt up and fish out with his forceps the stone or stones. If there are other objections they do not occur to us.

We are sensible that we shall at first shock the prejudices and previous associations of able and experienced lithotomists. We wish to be permitted to inform such, that what we have written is not a mere closet speculation; but that we have dissected, and seen dissected by others, the parts concerned in this operation repeatedly, and that we have performed the operation of opening the bladder on the dead subject, both by the posterior and by the anterior method, with a view of determining which ought to have the preference. The result of these comparative trials has been to us highly satisfactory. Indeed we cannot now perceive why this hitherto most difficult and dangerous operation is not rendered as safe for the male patient, (although it may take a little more time to perform it,) as for the female, which last operation is not thought much of by surgeons.

It may not be uninteresting to take into consideration some of the causes which may have contributed to prevent a discovery of this sort, especially when it is considered what a variety of plans have been contrived to get into the bladder.

Surgeons have been in the habit of considering the introduction of the grooved staff and cutting into the bladder, as one operation. They should have been regarded as two. This has led to the mistake; for the position which is proper for one of these operations, can never be convenient for the other.

Another circumstance may be mentioned; the anatomist is in the habit of first dissecting the abdominal and other viscera, his subject very properly lying on the back. Previous to dissecting the perineum he introduces the staff; to do this he has no occasion to alter the position of his subject. To obviate the inconvenience arising from the anterior part of the pelvis projecting in his way, he places or puts under it some hard substance, in order to raise it up so as to enable him to get at his work. It never occurs to him, that if he would turn over his subject, all

his difficulties would vanish. Besides he is taught that it should be done in this manner with a view to the operation of lithotomy. Thus one error begets another and is propagated from age to age.

New London, Con. A. D. 1818.

EXPLANATION OF THE CUT.

The cut at the beginning of this number is a representation of the instrument which was sent with the preceding article.

FIG. I.

Front view of the instrument with its groove.

- A. Handle.
- B. Shank, with groove on convex side.
- C. End of the groove.
- D. Beak.

FIG. II.

Side view of the Instrument.

- A. Handle.
- B. Shank.
- C. End of the groove.
- D. Beak.

'I am aware, (says Dr. North,) that there is no novelty in the attempt to induce surgeons to use such an instrument, as that represented in the cut, for the use of the female staff in the manner we propose, was long since advocated by Mr. Dease of Dublin, and others, and even by Le Dran, but then the patient was laid on his back.'

Dr. LYMAN's Case of *Midwifery*.

[To the Editors of the *New-England Journal of Medicine and Surgery*.]

GENTLEMEN,

IF you think the following statement deserves a place in your Journal, you are at liberty to insert it.

On the 7th of August 1821 at noon, I was called to visit Mrs. H—— of Chatham, in labour, with her seventh child. During forty-eight hours she had been subject to slight and irregular pains. The evening before I visited her, apprehending herself in need of immediate assistance, she had called in a woman in the neighbourhood, who had before attended her as a midwife. During that night and the next forenoon her pains had been frequent, and for a few hours very strong. A little before my ar-

rival they had undergone a considerable change. Her distress had become incessant and severe, without any distinct or sufficient uterine action. Her pulse was quick and weak, her extremities cold, and her countenance sunken. She and her friends were extremely alarmed and apprehensive of her immediate dissolution. They were probably the more alarmed, from the circumstance that her previous labours had been short and easy. She had also a considerable hæmorrhage, and the pudenda were swollen and very tender; symptoms probably attributable to the harsh and ill-directed efforts of her attendant. Several hours had elapsed since the membranes had burst, with a copious discharge of liquor amnii. On examination I found the os uteri fully dilated, and discovered something completely occupying the brim of the pelvis, and projecting a little into its cavity, which I concluded must be the head of the child, merely from the circumstance that it was covered with hair; for nothing like the bones of the cranium could be felt. The midwife assured me that the labour had made no progress, and that the presenting part had not altered its position, since her first examination. The uterine tumour occupied the whole abdomen, as high as the scrobiculus cordis; and though somewhat lessened by the discharge of the water, still it remained as high as before. There was, also, something which seemed to the hand like a separate substance in the uterus, projecting remarkably over the os pubis, inclining a little to one side, and extending as high as the umbilicus. This was very perceptible to the eye, and the neighbours of my patient considered as confirming an opinion, which they had before entertained, that she would have twins. She was much larger they said, than in any of her former pregnancies. My first efforts were directed to recruit the patient, by giving some light cordials, and directing her to refrain from all voluntary exertions. I had her removed to a large and airy room, and endeavoured, as far as possible, to remove her apprehensions of danger. In less than an hour the uterine efforts returned and were frequent, and apparently of considerable force; sufficient it would seem, if there had been no obstacles to have brought the labour to a speedy close. After waiting a considerable time for the effect of pains, it was evident the labour did not make the least progress. I then introduced my hand with a view to discover something more respecting this singular case. But after repeated attempts I could only distinguish, what I supposed to be an os parietalis, lying above the brim of the pelvis, and perfectly detached from any other bone. My efforts for carrying the hand further, produced strong and incessant pain, so that I thought myself obliged to desist. I then gave 60 drops

unctura opii with a view to suspend the uterine action. I hoped, by this means, that I might succeed in turning the child, or at least might determine with more certainty, what degree of difficulty I had to encounter. Though the opiate seemed in a great measure, to suspend the uterine action for a time, yet, upon introducing the hand, it was immediately re-excited; and after pushing my efforts, as far as I thought safe, I desisted with no better success than before. About 4 or 5 o'clock I requested that a physician, who lived at a distance of five or six miles might be called in consultation. The partial relief obtained by the anodyne was of short duration, and before sunset my patient's symptoms were very alarming. I attempted to introduce the lever so as to act with it on some part of the head, but could not pass it far enough in any direction to obtain a firm hold. I then gave the ergot, hoping it would bring on more powerful contractions of the uterus, so as to force the head within the reach of the forceps. It seemed to produce something of its usual effect, but the head made no further advance. Early in the evening my patient began to fail more rapidly; her mind became incoherent, and she made very frequent efforts to vomit. The physician I had sent for did not arrive, and I thought her symptoms allowed no delay. I therefore determined to open the head. As soon as this was effected, a sudden dash of water from the opening, reduced the uterine tumour so much, that the husband, who sat by the side of the bed, immediately remarked, that 'the swelling of the bowels was all gone down.' I had no means of ascertaining the quantity of water which was evacuated, but should judge it was three or four pints. With apparently weak pains, the labour was finished in a few minutes. The collapsed head, when first protruded, was nearly as long as the body. The bones of the cranium were separated from each other, by a considerable space. Excepting the head, the child was of ordinary size, and well formed. Being much fatigued, and at a distance from home, I neglected to take accurate measure of the head, as I wished afterwards I had done.—The woman has done well.—If I have been too minute in describing the peculiarities and the treatment of this cure, it was with the hope of assisting others in distinguishing a similar conformation, and determining with less embarrassment than I did, on the necessary means of relief.

NORMAN LYMAN.

Glastonbury, (Ct.) Nov. 1, 1821.

Some account of the Measles, epidemic at Salem in the autumn and winter of 1821. By A. L. PIERSON, M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

THE measles appeared to be epidemic with children about the first of September. At this time they began to spread in many of the schools. Some few cases occurred in summer; one only was heard of in the month of June. The appearance of the measles was preceded several months by a remarkable rash, which resembled measles so much in the catarrhal symptoms and the duration and distance of its different stadia, that it became extremely difficult to determine that it was not the measles. Many cases of this disease (which appeared to be a light form of scarlet fever) soon appeared, which presented phenomena so unequivocally different from those of measles, as put an end to all doubt on the subject.

The measles, as they have appeared here, were of the kind described by Morton, as 'Morbilli Sporadici et Benigni.' For although they were truly infectious, the constitutional symptoms were always purely inflammatory and never of that kind to which belong the epithets putrid, malignant, adynamic. They were rarely fatal, unless when accompanied by some local disease. The following extract from the bill of mortality gives a correct statement of the general result, although, no doubt, most of the cases ascribed to the measles alone, perished from some local inflammation.

Measles	18
Measles followed by Croup	9
" " by Pneumony	12
" " by Fever	1
Total	40

During the month of September, and first twenty days of October, the symptoms were generally mild, but fluxes of the bowels were very common:—and several children left weak by the measles, were carried off by the cholera; and on the other hand, several cases in which the cholera had impaired the vigour of the system, the destruction of life was completed by the measles.

During the latter part of the month of October and the month of November, many cases of measles were accompanied by local inflammation, the most common cases of which were

quinsies and peripneumonies. During the month of December, the disorder rapidly declined and was almost entirely lost sight of, for the last fortnight of that month. It reappeared in the first week in January, and spread through a few families and is now (February 1st) almost totally extinct.

The disease was most fatal to children between one and two years of age:—infants under six months generally had it favourably; and several infants, less than a month old, were carried through it in safety. Very few bad cases occurred to children above ten years of age, or to adults: and several aged persons had the disease favourably. Pregnant and lying-in women were observed to have the disease as favourably as others.

The first cases, from which the disease spread, were brought from Boston; and when the disease was on the decline here, it appeared to be travelling eastward. The usual limit of contagion, or the interval between the infection and the sickening, was fourteen days. This was tested by many observations similar to the following:—In a family of three children, the eruption appeared on the eldest October 20th. The youngest next sickened, November 2d., and broke out on the 5th. The second child next sickened on the 18th, and broke out on the 21st—leaving an interval of about a fortnight between each case and the subsequent one. In some cases the eruption appeared within eight days of the exposure; but the writer is acquainted with none in which it appeared, in cases which could be traced to communication with an infected person, after fourteen days had elapsed.

No instance is known to have occurred, in which a person having had the disease, was, in the course of this epidemic, affected a second time.*

Throughout the epidemic, no cases were observed of the disease described† by the name of the ‘putrid measles:’—in some cases of congestion of the lungs, the spots on the skin assumed a purple colour:—

CASE. S. W. aged 7. Nov. 10th. Eruption first appeared seven days ago—has been managed with free exhibition of stimulants—eruption very visible on neck, arms and legs of a deep

* Such an occurrence is believed to be not very uncommon, and Burserius (Institutes, vol. 2. p. 446.) favours the supposition;—but the observation of a most acute and extensive observer is altogether against it:—*Nunquam enim, in totâ mea praxi, novi quenquam, præter unum puerum, secunda vice, hoc morbo correptum.*—Morion. *Pyretologia-de Morbilibus and Febra Scarlatina.*

† See Sir William Watson, Medical Observations and Inquiries, vol. IV. p. 132.

purple; face, suffused with a dark colour—pulse small, hard, 140—some pain at the breast—frequent, hard and dry cough. Four ounces of blood were taken and a moderate cathartic ordered.

Nov. 11th. Somewhat relieved of the bleeding and purging—spots appear a shade lighter than yesterday. Six ounces of blood were taken.

Nov. 12th. Spots have nearly disappeared, and are of a light brownish appearance. Blood drawn yesterday is buffed. Four ounces of blood were taken. By these means and the use of blisters and expectorants, the child became rapidly convalescent on the 8th day of the treatment.

It was observed throughout, that the less interference there was of popular prescriptions, especially those of a stimulant kind, the more mild in general were the symptoms of the disease.*

Diarrhœa became, in many cases, the prominent symptom; and it was frequently observed in such cases, that the efflorescence was less vivid.† In these cases, during the stage of efflorescence, if the discharge from the bowels was checked by opiates, the efflorescence immediately became more distinct and florid.

However desirous it may be to decide, previous to the efflorescence, in any given case that the disease is measles, we have not learnt by this epidemic of any one of the catarrhal or constitutional symptoms, which, being present, will decide the case to be measles and vice versâ. A certain combination of these symptoms may determine a case beyond a doubt, and the efflorescence can sometimes be seen upon the mucous membrane lining the mouth before it is discoverable on the cuticle. We

* In the Almshouse of this place there occurred, in the months of October, November, and December, nearly sixty cases of measles—these, with the exception of one or two obstinate adults, were prohibited the use of infusion of snakeroot, spirits, or any other popular remedy, and confined to light diet and simple diluents. There was no death occurred among them, and twelve only of the number required any medical treatment, and these for inflammatory affections, very easily relieved by moderate evacuations. One child of two years, in whose case no evacuations by bloodletting were made, had a very tardy convalescence, and was affected with a painful dyspnoea for many weeks. The proportion of twelve to sixty—or 1-5th, is probably about the average of cases, in which, during the epidemic throughout the town, medical advice became necessary.

† This corresponds to some of the old descriptions of the disease, according to which the most perfect form of it is when the crisis is formed through the cuticle, entirely,—this is ‘*hostium expellere, regiâ viâ, per cuticulum*’—but if there is a critical discharge by any other emunctory, it is considered that the morbid matter has escaped through a by-path.

have diligently inspected the roof of the mouth in all cases which have fallen under our observation ; and although we have several times been able to see the eruption there twelve, and even twenty-four hours before it could be seen upon the skin, yet it has by no means been so in the majority of cases : the first sure sign of measles being, in most cases, a few detached pimples on the forehead and neck. The state of the mucous membrane of the mouth has, however, appeared to be among the most important diagnostic signs, and, for very obvious reasons, is peculiarly so in the case of negroes and coloured persons.

It has been stated,* that a genuine morbillous disease sometimes occurs without the efflorescence,—the following is believed to be an undoubted case of that sort.

CASE. Jan. 27. J. W., aged 20, has been exposed to contagion of measles, in a house where, a fortnight since, several children broke out with the measles. Felt, last evening, shiverings, nausea, and pain in loins and head. To-day is unable to retain any thing upon his stomach, watering of eyes and nose, sneezing, and slight cough. 28th. Eyelids swollen and very red, prickly sensation about the forehead and eyes—cough frequent and troublesome—heat, pain, and swelling of the fauces. Nausea and vomiting have subsided ; breath has a peculiar, disagreeable fetor ; tongue red, and partially covered with a ragged coating ; back part of the roof of the mouth covered with fine red pimples—in short, every symptom of the stage of efflorescence is present, except the cuticular eruption.

31st. Convalescent. Has had no eruption.

Worms in the intestinal canal were particularly disturbed by the progress of this disease ; and in some instances the measles were more successful than the most approved anthelmintics. In one instance, a child in the formative stage of measles, vomited, in the course of half an hour, seven lumbrici.

It happened that in many cases the measles proved fatal to children in consequence of their having some chronic complaint, to which little or no attention had previously been paid. The following are instances.

CASE 5. P. K., aged six years, a child of light hair and very fair complexion was left, after having the measles, with symptoms of tubercular phthisis. The patient died in about six weeks from the disappearance of the efflorescence. On dissection, the lungs were found studded with tubercles ; and in the upper lobe of the left lung was found a vomica, so large that the external swelling over it had protruded from underneath the clavicle, and

* Burserius' Institutes, vol. 2. p. 515.

up the neck nearly to the angle of the jaw. This tumour gave, during life, from its nearness to the great blood vessels, a pulsating sensation not unlike that of an aneurism.

CASE. E. H., aged two years, was very feeble from the diseases of dentition, when it was attacked with the measles. Symptoms of general inflammation moderate in degree and without a loss of appetite, were accompanied by pain of the left side, dyspnoea and an *intermitting pulse*. These symptoms continued for a fortnight after the measles disappeared, when the child died. On examination after death, the pleura covering the left lung was found adherent to the ribs in every part, apparently from inflammation of long standing. This lung also contained a large collection of purulent matter. The serous membrane of the heart and pericardium was thickened in every part and covered with an exudation of lymph—more than four ounces of purulent serum were contained in the pericardium. The right lung was healthy.

CASE 3d. A., aged five years, has been a very feeble child for two years, and has, during most of that time, been troubled with shortness of breath and difficulty of breathing. Symptoms of pneumonia, of a sub-acute form, followed immediately upon the measles, and the child died on the 20th day of treatment. On dissection the lungs appeared gorged with blood, and the air-cells were partly filled with purulent mucus. The pericardium contained three ounces of bloody serum.

The combination of measles with cynanche trachealis was the most fatal form in which the disease appeared; and the following is one of the most interesting, of which any record has been made during the epidemic; it is therefore given at some length.

Nov. 2d. G. H. F., aged fifteen months, had usual symptoms of the first stage of measles.

3d. Cough increased during the night, and this morning is affected with cynanche trachealis. About three ounces of blood were procured, and this, with an emetic, produced an abatement of the disease, so that he passed a tolerable day. At night the stridulous breathing returned. Owing to the veins being buried in fat, very little blood could be procured, although both external jugular veins were punctured,—and some leeches, which were applied to the throat, could not be made to do their office. An emetic and the warm bath produced a partial relief. No eruption has yet appeared.

Nov. 4th, third day. Cough more severe, but with less of the sound of croup—respiration laborious—cough dry—no eruption.

Nov. 5th, fourth day. Respiration has become a little better during the use of antimonial diaphoretics and expectorants. Cough a little more loose. On the evening of the day a faint eruption appeared on the forehead and neck. Constitutional affection somewhat less severe.

Nov. 6th, fifth day. Eruption very full on the face, breast, and arms. Cough and other symptoms the same.

Nov. 7th, sixth day. Eruption disappearing on the face, plentiful on the trunk and lower extremities. Other symptoms continue.

Nov. 8th, seventh day. Eruption disappearing all over the body. Cough hard and dry—respiration laborious. Is excited to cough by every attempt to swallow.

Nov. 9th, eighth day. Extreme restlessness—deglutition much impeded by violent paroxysms of coughing at every attempt to swallow. Cough dry, and thirst urgent.

Nov. 10th, ninth day. Some aphthæ have appeared in the mouth—deglutition a little improved—a small quantity of milky fluid apparently purulent, is thrown up from the trachea on coughing.

Nov. 11th, tenth day. Deglutition almost totally obstructed. Cough very urgent—vesication on sternum beginning to sphacellate—death at 4 P.M.

Nov. 12th. Examination of the body at 9 A.M. The lungs externally appeared nearly natural. The pulmonary veins contained more blood than usual. The mucous membrane of the trachea was uncommonly red and swelled. There was no exudation of lymph; but directly below the rima glottidis was a small, deep, dark-coloured ulcer. The mucous membrane of the pharynx did not exhibit marks of disease. The diameter of the trachea was unusually small.

This child was vigorous and very fat—had been weaned two months, and was of a family hereditarily disposed, on the mother's side, to cynanche trachealis. The mother had had five children, two of whom had perished before with this disease. Quere. Does the hereditary disposition of this family depend on the smallness of the calibre of the larynx? The violent and almost convulsive cough which appeared on the 8th day, was at first attributed to the irritable state of the mucous membrane of the pharynx, which it was supposed might have become inflamed by the use of infusion of seneka and of a mixture of balsam of copaiva with ammonia; but the dissection plainly shows, that this symptom was to be referred to the ulcer which formed itself in the trachea.

In the treatment of inflammatory cases attending or following the measles, it has not been found necessary during this epidemic, to vary the method from that found to be most successful in cases distinct from the measles and unaccompanied by them. Moderate blood-letting was admissible in every stage of the disease where the patient had tolerable vigour. There is nothing necessary at the present day, to produce conviction in the minds of medical men as to the utility of blood-letting in moderating the violent symptoms of this and other Exanthemata.*

In conclusion, the writer of these remarks thinks it proper to state that, although from frequently consulting the other medical gentleman who have at the same time observed the progress of this visitation of the measles, he believes their testimony would concur with his own, yet the foregoing statement is made entirely from his own observation and rests upon his own authority.

Salem, Feb. 1, 1822.

The following account of a case of Malformation of the Heart is extracted from a Letter to one of the Editors.

C. S. died April 20th, 1822, aged 22 years. During the first ten years of her life nothing indicative of her disease was discovered. The growth and firmness of the body were as usual, and the health good. No palpitations, dispnoea, livid countenance or any of the concomitant symptoms of malformation of the heart were to be noticed. About this time she was

* In the time of Morton and Sydenham, and of Mead, it required some independence to adopt a remedy which might interrupt those processes of nature which were esteemed necessary in order to expel, by a perfect crisis, the material morbid cause. An interesting anecdote is related by Mead, of a physician who returned to *thank him* for having counselled him to use bleeding in the commencement of measles, stating to him that since he adopted his advice he had recovered *every patient*. Sydenham gives an unqualified recommendation of the lancet *where* peripneumonic symptoms supervene *after* the eruption,—and Morton, who seems in his practice to have *out-bled* his greater cotemporary, relates a case bordering upon the marvellous. In this case he found the patient, a child of five years, on the fourth day of the efflorescence, nearly suffocated from congestion of the lungs; the efflorescence had disappeared, except a few pale spots, the extremities had begun to grow cold, and the ‘pulse could scarcely be perceived by the touch.’ He ordered the patient bled, and finding that the pulse rose and the efflorescence became more fresh on the loss of three or four, he continued the bleeding to six or seven ounces. He concludes the history in this exulting manner:—‘*Quo unico remedio (scilicet venesectione) ab ipsis Orci faucibus aegre prorsus liberabatur, atque adhuc in vivis est.*’—*De Morbill. &c. Historia 1.*

much afflicted with verminous complaints, and was relieved by the expulsion of large numbers of lumbrici. Immediately succeeding this, she had an attack of thoracic inflammation, seated in the region of the heart, and that organ appeared sensibly affected. After this period palpitation occurred, which gradually increased. There was often flushed countenance, and a tendency to excessive hemorrhage from the nose. Neither at this nor at any succeeding period were there any very striking paroxysms of dyspnœa or lividness. They occurred only in a slight degree. She lay with most ease when the head was considerably elevated during rest. Except a disagreeable throbbing sensation and slight oppression at the præcordia, she always said she felt well. At the age of puberty, the secretions peculiar to her sex were regular in quantity, quality, and period, and the evolutions of the body generally were apparently as rapid and perfect as in the most healthy. She had at different times slight febrile attacks, from which she recovered her usual health, and had as rapid recovery as patients generally have. She continued much in the same state of health until 1818, about two years before her death, when her complaints became distressing, and her symptoms more alarming. Any violent exercise caused distress in the affected region; hurried and somewhat laborious respiration, with violent palpitation perceptible over the whole body, which last was most conspicuous in the chest and carotids. Her countenance was generally flushed and full. She suffered occasional epistaxis, which required tents with astringents for its suppression. Venesection seemed to produce little or no effect: if any, inducing a plethora, which aggravated rather than paliated her symptoms. Thus she continued able to attend to some business in the family, walk some distance without difficulty or inconvenience, and among her friends appeared well, until within a few weeks of her death; and even then the change was not remarkable. She complained of nothing more than a sense of oppression and a disagreeable feeling at the heart. She betrayed an anxious solicitude about the termination of her case at times, otherwise she was free from pain and was cheerful. She seemed to experience most relief under a course of cordial and somewhat antispasmodic medicines. She was, however, absent a short time previous to her death with a neighbouring physician, who put her under a course of digitalis, which seemed, as he observed, to moderate in some degree the symptoms. On the 18th April, after her return, having spent a restless night, she arose somewhat late and took a dose of the foxglove as usual, and of which she complained as distressing her stomach.

She went to the glass to adjust her hair, and while doing this she sallied, fell, and died without a groan.

On dissection, the thoracic viscera (the heart excepted) were found healthy and natural. The arteries proceeding from, and veins proceeding to the heart, were of a natural and healthy structure and dimension. The heart, lungs, &c. with the blood vessels attached for some length, were carefully removed and examined. The right auricle was first opened and found natural; foramen ovale closed; valves as usual. On opening the ventricle, it was found extremely large and filled with columnæ carneæ. The finger appeared to pass between those columns into the left ventricle without obstruction. The left ventricle was opened, and what before assumed an appearance, became a reality. I could pass my hand readily up to the thumb into the right ventricle through or between those fleshy columns, which, when the heart was suspended, appeared to close the passage and perform the office of a *septum ventriculorum*, none other being present. It may be proper to state the heart was monstrously distended with blood, and, as in other cases of sudden death, the blood was not coagulated. Nothing farther was discovered unnatural in its appearance.

GEO. WINSLOW.

Colrain, January 1822.

Additional Facts relating to the Case of Arm Presentation, published in the last Number of the New England Journal of Medicine, &c. By E. HALE, jun. M.D.

[To the Editors of the New England Journal of Medicine and Surgery.]

THE case of arm presentation in your number for January, is of so much importance in a practical point of view, that I beg leave to communicate to you some further circumstances, which came under my observation as attending physician. The practice in these cases is not, perhaps, so fully established as not to be liable to be in some measure affected by any new case that may occur; and hence it is peculiarly important, that every circumstance in such a case that might in any degree affect the result, should be fully stated.

In the first place, it should be remarked that the character and habits of Mrs. B. were such as to have an exceedingly unfavourable influence upon her case. She was a dispensary patient, and was one of the most debased of those who are ever permitted to receive assistance from that institution. She had long been in the habit of excessive indulgence in the use of ar-

dent spirits ; and was at the same time extremely obstinate and quarrelsome. Her husband, and nearly all the friends who were about her at the time of her illness, were of much the same character. They were very poor, and entirely destitute of those minor comforts and conveniences, which so essentially contribute to a restoration to health. The room where she was confined, was a small garret, sloping on each side with the roof, with but one window ; and it was of course badly ventilated, and exceedingly filthy.

I was first called to Mrs. B. about three o'clock on the afternoon of the 12th of September. She was then in labour for the seventh time. She represented that she had already been in labour about thirty hours ; and the membranes were said to have been ruptured a short time before I arrived. I found her in the same state of restlessness, obstinacy, and querulousness, which is described by Dr. Channing at a later period, although it was somewhat less violent. She expressed considerable anxiety respecting the presentation, in consequence, as she said, of having been once obliged to undergo the operation of turning ; and yet she did not readily yield to the arrangements necessary for an examination. At the first examination, I could discover no presentation ; but in a short time after, I examined again, and found that the hand and arm had come down into the vagina. It was the right hand, the palm of the hand being towards the sacrum. I now attempted to turn the child, and should probably have succeeded, if I had been permitted to proceed. The liquor amnii was not all discharged, for some portion of it came away at every pain ; and the shoulder of the child was not pressed down into the pelvis and the arm confined, as it was at a subsequent period. The parts seemed sufficiently disposed to dilate. I explained the necessity of doing something effectual for her relief, and notwithstanding her objections, began to introduce the hand for the purpose of turning. But she straitened herself out, at the same time turning upon her back, and crying murder with great violence ; and resisted both with her feet and her hands, with such a muscular force as to render the attempt to proceed further altogether vain.

There was, therefore, nothing to be done but to wait for the regular process of the labour. After several hours I left her to return at short intervals, with instructions to call me if there should be any change in her situation. I was called two or three times in the course of the night. No change, however, had taken place in the character of her pains. She did not appear to me to suffer more than women often do in a lingering labour. Her pains were not frequent nor apparently severe. But her

impatience and obstinacy were excessive. She screamed with great violence and almost incessantly when I was not in the room, although as soon as I entered she became comparatively quiet, and she several times slept a full hour without interruption. I afterwards learned, that in my absence she had taken large quantities of spirit, and this was doubtless a considerable cause of her violence.

On the morning of the 13th as I was returning to her after an absence of three or four hours, I requested Dr. Channing to accompany me. As we entered the room we found her on the floor, as described in his paper, in a state of querulousness and impatience not to be described. It was, however, only an increased degree of what she had exhibited from the first. Another attempt, which was afterwards made by Dr. C. to turn the child was as unsuccessful as the first. As I could not be with her the whole time, on account of other professional duties, I procured a medical student to stay with her during my absence. But he had not sufficient authority to prevent her attendants from giving her ardent spirits. Dr. Channing visited her with me several times in the course of the day.

No considerable change occurred in the character of the pains until about three o'clock in the afternoon. They then became the regular expulsive pains which we are accustomed to meet with in the second stage of labour. Hitherto the arm had retained the same situation in the vagina since it first came down. It was free from any restraint, and retained some degree of muscular motion. But the shoulder was now pressed down firmly against the pubis, and the arm swelled and lost all appearance of life. In a short time a small puffy tumour was perceptible in the axilla, similar in feeling to the tumour which is produced by the scalp in a head presentation in a somewhat difficult labour. This tumour gradually increased in size, until the whole side to the short ribs could be reached by the finger. The arm in the mean time was not retracted, but on the contrary was pressed still more down, so that almost the whole of it was without the vagina. The hollow of the shoulder, between the acromion and the head, seemed to embrace the pubis, and turned upon it as upon a pivot, as the labour advanced. Soon after, the doubling of the child filled the pelvis, and the perinæum was considerably distended. It seemed that a few more pains would complete the labour. But in this state of things, a rigor came on and the pains ceased. The crotchét was therefore introduced, and the delivery effected by it, as described by Dr. Channing. The lower extremities came away at the same moment with the breech; and the shoulders and head followed im-

mediately after. The perinæum did not appear to me to be more distended than in an ordinary case. After waiting a few minutes, the placenta was delivered without difficulty. It was now eight o'clock in the evening. The duration, of what was properly the second stage of the labour, was therefore about five hours. We gave the necessary directions, and soon after left her. The gentleman who had staid with her through the day visited her late in the evening, and again early in the morning, and drew off the urine with a catheter. After that time she was able to pass it spontaneously.

When I visited Mrs. B. the next morning, I found her alone. She had no nurse—the friends who had been with her during the labour had left her; and her husband, who had been in a state of intoxication all the day before, was just waking from his stupor. She appeared to have had almost nothing done for her since I had left her; no wet clothes had been removed from her, nor dry ones applied; nor could I learn that any thing had been given her. She had flowed considerably during the night, and the bed was literally soaked through. Every thing about her was wet by the discharges; and the only pillow under her head was the one which had been placed between her knees during the operation. She was of course excessively chilled and exhausted.

I procured some charitable neighbours to go in, and place her in a situation as comfortable as circumstances would permit. Others sent wine-whey, and such other things as were needed. The husband was sent for a nurse. But no decent woman could be induced to stay in such a place, and we were obliged to do the best we could, with a nurse whose character and habits were as bad as those of the patient. It is not necessary to pursue the details of this case. Suffice it to say, that the treatment was such as the state of the patient and the symptoms indicated, and as her situation and the kindness of her neighbours could supply; but she died the sixteenth. I was told after her death, by the woman who supplied the place of nurse, that notwithstanding my injunctions, she had taken large quantities of spirit every day after her delivery till her death. An examination by dissection could not be had.

I will make but one remark. This case, in my view, furnishes no argument against the propriety of waiting for what has been called a spontaneous evolution, in cases where turning cannot be effected sufficiently early. There can be no doubt, that it is proper to turn where we have opportunity to do it at a suitable time. The child may be saved by it, and much suffering may be spared to the mother. But where, from whatever cause, this cannot be accomplished in proper

season, it is better to trust to the spontaneous efforts of the labour, than to use violent exertions to turn. And I believe it will generally be found, that the strength of the patient will be sufficient to carry her through. In this case the exhaustion was more occasioned by the misconduct of the patient than by the process of labour. As it was, her strength was almost sufficient to effect the delivery. So rapidly was the child advanced by some of the last pains, that I am convinced that a few more similar pains would have expelled it, when the rigor came on. It is true, however, that she would never have had these pains, and but for the application of the instrument, she must have died undelivered. But fortunately the instrument is in such a case easily applied. As the child is already dead, it is but to attach the crotchet to any part that will furnish the necessary resistance to the moderate degree of force that is required. What the result would have been, if proper attendance could have been secured after delivery, it is now impossible to ascertain; but there is much reason to believe, that it would have been altogether different.

Very respectfully, your obedient servant,

E. HALE, Jr.

Boston, March 11, 1822.

REVIEW.

ARTICLE III.

Observations sur la Fièvre jaune faites à Cadiz, en 1809. Par M. M. Pariset et Mazet. Paris, 1820. 4to. pp. 144.

THE discussions, in regard to the contagious nature of the yellow fever, having excited some attention in France, where the history of this disorder is not very well known, the minister of the interior, Duke Decazes, determined to procure an investigation of the subject, by some physicians of that country. In 1819, the yellow fever breaking out at Cadiz, he appointed a commission to go to Spain and examine into all the circumstances of the disease on the spot. The fever began in August; but this commission did not set out until the third of November, and reached Cadiz in the beginning of December. At this time, the disease had subsided so far, that public thanks had been offered for its removal; a few instances, however, remained in the hospital, which the commission had an opportunity of seeing.

This commission consisted of two persons, M. Pariset, who is the writer of the book, and M. Mazet, a young physician of Paris. In their journey to Cadiz they passed through Seville, where the disease had appeared, although at the time of their presence, it had wholly subsided. They of course improved the opportunity of inquiring into the history of the complaint in that city. Its symptoms, as detailed in the work, agree with those of the yellow fever of the West Indies and this country. The number of persons affected was stated, in some accounts, to be about eight hundred, while others raised it to twelve thousand; and the number of deaths by some was made to be three hundred, and by others fifteen hundred. The disease prevailed in a particular part of the city, called the quarter of Saint Croix—a quarter remarkable for its filth and population. It was thought by the Spanish physicians to be highly contagious, and to have been imported into their city by a woman from San Fernando, where the disease prevailed. This woman lodged in the house of an ecclesiastic. She was seized with the fever and died, as was the person belonging to the house; and afterwards it appeared in every part of the quarter, of Saint Croix. The

author adopts the opinions of the physicians of Seville, without reserve. It appears, however, in another place of his book, that it was questionable whether the fever did not appear in *various parts* of the quarter Saint Croix *at the same time*. He informs us that this quarter was remarkable for the narrowness of its streets; in many of which, two persons could not walk abreast, and, in some, an individual passing would brush the walls on each side. These narrow streets were filled with all kinds of unclean matter. In this quarter of the city did the yellow fever extend its ravages, and notwithstanding its *highly contagious character*, the rest of the city was preserved from its attacks. This exemption was owing, it is said by the writer, to the establishment of barricades around the quarter Saint Croix, which had the happy effect, he informs us, not only of preserving the rest of the city, but of *causing the disease to disappear* from Saint Croix by the sixth of November. Whether *physicians* and *provisions* were allowed to pass these barriers is not stated. Nor, if they were allowed to pass, is it stated whether they carried the disease out from this quarter.

On the second of December the commissioners entered Cadiz. They found that this day had been kept a festival, and *Te Deum* had been sung to celebrate the termination of the epidemic. In spite of the joy this news gave them, they were a little disconcerted to find, that they had taken so long a journey to no purpose; but on the next day they were a little consoled on finding, that some cases still existed in the hospital, and they were told that possibly they might see a few new ones.

Whether this happened or not, the epidemic had so far disappeared, as to leave them only the opportunity of collecting the reports of the physicians of the place, as to the origin and extension of the disease.

The first of these reports presents a condensed and exact account of the symptoms of the complaint, and is extracted from a pamphlet avowed by the physicians of Cadiz. This account identifies the disease with the yellow fever, as described by physicians of the West Indies, and as it has appeared in this country. The symptoms are in truth precisely the same.

The history of the mode of cure presents nothing peculiar, except the fact that many patients were treated by females, who were allowed to practice in Cadiz at the time, because the number of patients was too great to be attended by physicians. The treatment employed by these women was extremely mild and simple, and afforded relief in the greater number of cases in which it was employed. Mild drinks, especially diaphoretics, fomentations, and gentle evacuants, comprised the whole of their

practice. The success confirms the observation of a learned French physician, who has been lately occupied in travelling through the West Indies and United States for the purpose of collecting facts relating to the yellow fever. This gentleman is said to have remarked, that so far as his experience has extended, a very mild medical treatment with diluting and diaphoretic drinks, has, on the whole, appeared to him to afford the most favourable results.

The author next proceeds to speak of the *introduction* and *propagation* of the disease. In the preface, he avows himself decidedly in favour of the opinion that this fever is of foreign origin and very actively contagious. Of course, his statements are rather calculated to show how the disease was *introduced* and *propagated*, than how the localities might have favoured its *origin* in the place.

It seems that about the end of July 1819, the first physician of Cadiz, or *Proto-Medicus*, was informed that the yellow fever prevailed at the Isle of Leon, a city of thirty-two thousand inhabitants, about three leagues from Cadiz, and that he went there on 29th July, and recognized the yellow fever. But on a subsequent visit, a few days after, in company with other physicians, he, as well as the rest, agreed that the disease was a bilious fever of equivocal character. On 10th September another visit was made, and the hospital was found full of patients with the yellow fever. The author states, that on the 18th the first physician, M. Flores, went to visit the hospital St. Joseph in Cadiz, where he found two patients, one from the Isle of Leon, the other from Chiclana, a beautiful village near the Isle of Leon, where the rich go to pass the summer. These two patients being in the 7th day of the disease, he could not determine its character; but the next day, a visit is made, subsequent to that of the Isle of Leon, and the disease is fully recognized. Of course we are left to infer, that it had developed itself in this hospital in the twenty-four hours after the *Proto-Medicus* had visited it. The public authorities, however, do not appear to have acknowledged the existence of the disease until the 8th September. After this time the complaint spread rapidly. At one time there were above twelve thousand sick; and out of a population of seventy thousand, the number of inhabitants in Cadiz, about forty-eight thousand had the disease, of which five thousand died.

Having settled to his satisfaction the manner in which the disease was transmitted to Cadiz, that is, from the Isle of Leon, the author proceeds to consider the mode of its introduction into the latter place.

There are four channels, through one or more of which it might, he thinks, have been introduced. The first was through a small American vessel, which had fraudulently disembarked some goods at the Isle of Leon. The Spanish contrabanders, who had received the goods, died a short time after, and in ten or twelve days the complaint made its appearance in a house near them, and proved fatal in a number of cases. Thence it extended slowly, during a whole month, through the quarter called *Bavrio del Christo*.

Secondly. About the same time, the *San-Julian*, a vessel of the Philippine company, arrived from Calcutta in the bay of Cadiz. The crew had been perfectly healthy till their arrival; but afterwards some of them lodging near the place, where the sick from the source named before, were placed, some of them had the disease and died. However, the *San-Julian* had the credit with many of introducing the disease; for, says a friend of the author, this ship came from Calcutta, where the cholera morbus raged; and the latter was informed by a friend of his in the East Indies, that the cholera morbus of the Indies is the '*true original yellow fever*.' That this vessel actually imported the disease, the author thinks there can be no doubt; for although she was so fortunate as to have *no one sick* during her long passage from Calcutta, yet some time after her arrival, the people in the Isle of Leon, who received the mate of this vessel, as well as two of the sailors, were seized with the yellow fever and died; and soon after, this mate and sailors met with the same fate. The *San-Julian* arrived on the 26th *June*, and on the 29th *July*, the Proto-Medicus first thought he recognized the yellow fever at the Isle of Leon.

A third mode, in which the disease was said to be imported into Cadiz, was by a ship called the *Asia*. This vessel sailing from Vera Cruz, to the Havanna, lost sixty of her crew by the yellow fever. At the latter place she repaired her crew, and arrived at Cadiz without any further sickness. From Havanna to Cadiz the crew were perfectly well.

Fourth. The disorder was reported to have been brought to Fernando, a place near Cadiz, by a vessel from Tarifa near the straits of Gibraltar, where it was said to have been carried by an American vessel, the master of which concealed some bales of cotton under a quantity of oranges, and this cotton is supposed to have carried the yellow fever to Fernando.

It is hardly necessary to consider these different cases with much minuteness. The first by the contrabanders, does not appear to be supported by any distinct vouchers. The third by the *Asia* is abandoned by the author, because the vessel arrived

after the appearance of the disease. So also is the fourth, because there was in fact no proof of any such vessel having arrived at Tarifa; and it was well known, that no yellow fever existed there. The second case only remains, and on this the author appears to rest his firm belief, that the yellow fever was imported from Calcutta to Cadiz. With this he even sets out in the beginning of his book: for in the preface it is stated in unqualified terms, *that the yellow fever of Cadiz came from Calcutta*. To enable us to agree with the author, we must believe these two things; first, that the cholera morbus of Calcutta is the same disease as the yellow fever; second, that a vessel can preserve its own health through a long voyage, yet be able to communicate disease after this voyage has terminated: not immediately on her arrival, but some weeks afterward.

So much for the proofs of the yellow fever having been imported into Cadiz.

Further, the author is of opinion that the yellow fever was imported into Cadiz, not only in the year 1819, but also at all other times when it has existed there: and in order to make this probable, he gives us a list of places where it has appeared on the year previous to its prevailing at Cadiz; as for example:—

In 1735, at Martinique and New Haven; in 1736 at Cadiz.

In 1743, at Cape Francois and New York; in 1744 at Cadiz.

In 1791, at New York; in 1792 at Cadiz.

In 1799, at Vera Cruz and Boston*; in 1800 at Seville and Cadiz.

It would seem from this statement, and what precedes it, that the writer believes that the yellow fever may *originate* in, or be imported from Boston, New York, and New Haven, where the temperature is lower than that at Cadiz; but that, at the latter city, it must always be *imported from some other place*.

The doctrine that the yellow fever at Cadiz is contagious, is supported by the author of these observations in its utmost extent. He believes that the yellow fever poison may be communicated from one living body to another; that it may be transmitted by clothing of all kinds; that it may be retained and communicated by the walls of a house, even at the distance of a year or more; that the atmosphere may be contaminated with it, so that without approaching men, clothes, or houses, the disease may be inhaled in the form of infected air in every inspiration. It would be impracticable here to present a fair statement

* The yellow fever did not prevail in Boston in 1799, but in 1798. As to the correctness of the other dates, we have not made inquiry.

of the facts on which he founds these opinions ; but some of the most striking may be set down as a specimen of the rest.

Two men left Cadiz, when the yellow fever prevailed there in 1800, having the disease, and went to Medina Sidonia, where they died. Their bodies were dragged into the fields by long hooks and burnt ; the house where they had died was shut up, and the street interdicted. No one in Medina Sidonia took the fever that year ; but in 1801 the house and street being opened, the fever broke out, and spread widely through the city.

A young lady engaged in marriage lived in a street at a distance from the quarter where the disease raged, and in a family where great precautions were employed to prevent communication with the infected parts. Suddenly she was attacked with the fever, and on being closely questioned, acknowledged that one night she had conversed through the window with her lover, who lived in the infected part of the city. She soon after died ; the young man was *not affected* with the fever, either at the time or afterward.

A farmer who lived at some distance from the fever, and kept his house insulated, found his mother, who lived in his house, attacked with the disease. On inquiry it was known, that for two successive nights she had admitted into the house her grandchild, who lived in the infected quarter, in a house where her mother, father, and the rest of the family had died, and left her alone. Being afraid, she went in the night to her grand-mother, and begged admission for the night, and returned early in the morning to the house where she had lived.

Many such instances as these are adduced in support of the very contagious nature of the disease. Some persons will probably think it incredible, that a house where two yellow fever patients had lived a few days, should be so deeply infected, as to retain the poisonous effluvia through a winter, and in spite of numerous precautions ; and as to the two last cases it will by many be thought, that the exposure to the night air in an epidemic season, together with the state of mind produced by the apprehension of discovery, would be more likely to cause the affection, than the morbid effluvia retained in the clothes of a person, who was well and not influenced by the same poison.

It is remarked in regard to one of the Spanish towns, where this fever existed, that persons went there safely in the day ; but if they remained, or even passed there in the night, they were attacked by the disease. This observation is not peculiar to the place in question. Physicians who visit districts, where the yellow fever prevails, are rarely affected if their visits are made in the day, although they may see and examine a considerable

number of sick persons; but if they are so unfortunate as to be compelled to be there in the night, the danger of imbibing the disease is vastly increased.

On the whole, it must be confessed that this work adds but little, if any thing, to the strength of the argument in support of the opinion, that the yellow fever is an imported and contagious disease. The facts adduced in support of the importation of the yellow fever into Cadiz evidently prove nothing of the kind. Those brought forward in favour of its contagious character, are more numerous and better stated. Still they are manifestly coloured by the prejudice of pre-conceived opinions; and will not bear the scrutiny, which so difficult and intricate a subject as that of contagion renders absolutely necessary.

Cadiz has been subject to attacks of the yellow fever for at least a century, and how much longer we know not. It is in a low, moist situation, subjected to great heats, has many narrow dirty streets, filled with a promiscuous people, who are compelled to use rain water for their drink.

The Yellow Fever must have its origin somewhere, and where could it find a situation better fitted to generate and diffuse it than such a city?

We have not given so distinct an idea of the contents of this work as could be desired: but this deficiency must be attributed to the peculiarities of the publication. It contains a multitude of facts, varying in their authenticity, their importance and their bearing on the subject, and are thrown together in the most promiscuous manner.

ARTICLE IV.

Practical Observations in Midwifery; with a Selection of Cases.

Part I. By JOHN RAMSBOTHAM, M.D. Lecturer on Midwifery at the London Hospital, &c. &c. London: 1821. pp. 422.

THE first thirty-three pages of this work contain anatomical and physiological sketches of the parts more particularly related to midwifery. The author objects to the received opinion that the uterus is muscular, and teaches that its agency in delivery is not to be ascribed to such a structure. He considers the structure of the uterus to be peculiar, *sui generis*, and to which there is nothing similar in the human body. It is hence unphilosophical to explain its functions by a reference to those of other organs, however nearly they may appear to

approach each other by the effects they produce. He teaches that the pregnant uterus does not owe its increase of size to any deposition of new animal matter within its structure, and finds an argument for this opinion in the return the uterus makes to its ordinary dimensions, after delivery, and which he thinks cannot be explained by absorption. The efforts of the womb are in themselves painful. He farther asserts, that the child undergoes no change of situation previous to the occurrence of labour; and attributes the subsidence of the abdomen to a gradual contraction of the uterus upon its contents, by which its size is diminished, and hence occupies less space in the abdomen than before the subsidence took place. The above is but an outline of much ingenious and useful remark. A fuller analysis has been omitted, that a greater opportunity might be afforded for more practical detail.

Under the head of *natural labour*, a very excellent view is offered of the phenomena which mark this process. He speaks in the next place concerning the *general management of the placenta*.

‘After the separation of the child, the hand of the accoucheur must be applied upon the lower part of the abdomen, with the intention of ascertaining the state of the Uterus, and the degree of contraction it has already taken upon itself; for every other consideration is now of minor importance, in comparison with uterine contraction. This simple proceeding, then, ought never to be omitted: it enables us to judge of the probable safety of the patient, and to give those satisfactory assurances which ever prove so pleasing: it warns us of threatened mischief, and empowers us to take timely steps to avert it: it is the surest test of the presence of a second child. By the state in which the uterine tumour is found by the hand, must the practice be regulated.

Dr. R. then proceeds to inquire in what manner, and by what means, the separation and exclusion of the placenta are naturally effected. The placenta is separated and excluded by the contraction of the uterus. In consequence of contraction, the uterine parietes and cavity are diminished, while the size of the placenta remains the same ‘the uterine space before occupied by the placenta is proportionably lessened, and shrinks into a less surface: the placenta, therefore, loses its former hold: it spontaneously falls off, as it were, from its preceding attachment, by the shrinking or contraction of the uterine parietes from beneath it; and its separation is attended with a moderate discharge of blood.’ In virtue of this contraction the orifices of the vessels by which the placenta was attached to the uterus are diminished in size, or so nearly closed as to pre-

vent an injurious hemorrhage. The means of ascertaining the state of the uterus, immediately after the birth of the child, have been adverted to.

‘The application of the hand, at the lower part of the abdomen, as before directed, with a slight degree of grasping pressure, immediately detects the state of the Uterus at the moment; and should be resorted to before any attempt be made to remove the Placenta, or even before an examination be commenced with that intention. If the Uterus be now found low in the abdomen, or in the pelvis; if it be firm, well contracted, and small in bulk, the safety of the woman is pretty well assured. If, on the contrary, the Uterus remain high; if it be flaccid, ill-contracted, and large in size, without the presence of a second child, some threatening of mischief attaches to such symptoms, of which the accoucheur is warned.’

‘After this satisfactory information is obtained, an examination *per vaginam*, is presently to be made, for the sake of enquiring in what manner the Placenta is disposed of. If the mass be found by the finger protruded down into the Vagina; if the insertion of the Funis into its substance can be readily and distinctly felt; if the finger can trace the boundaries of the mass; if, at the same time, the Uterus be firm and small; little doubt can remain of the complete detachment of the Placenta, and of its exclusion. In such a case, it may be withdrawn at pleasure by the Funis.

‘But though the Placenta may thus be withdrawn at pleasure, it may be a question of policy, whether it ought to be withdrawn *immediately*. On this point, different practitioners vary in their sentiments, and accordingly pursue different modes of practice. I am ready to grant that, under the favourable appearances above stated, the Placenta, in the majority of instances, may be immediately withdrawn, without any apparent detriment to the patient; nay, we uniformly find in practice, that the sooner it is removed, the better pleased are the patient, and her friends; nevertheless, I have my doubts of its propriety, without uterine action, and I generally wait its return before I finally remove the Placenta, that I may take advantage of its assistance.

‘To allow the Placenta to remain in the Vagina for a short space of time, can, at least, do no harm: its presence appears rather advantageous than detrimental, by inducing a return of that salutary effort, and by furthering those silent changes already in progress. The habit of hurrying the removal of the Placenta, under all cases, cannot be too much deprecated. I offer no limit as to time; that must be regulated by the occurrences of each case, and the judgment of the accoucheur.

‘But the Placenta may be separated from its uterine attachment, yet may not be excluded the cavity; it may remain loose and detached within the Uterus. The uterine tumour, in such case, is felt above the pelvis; it occupies a considerable portion of the ab-

dominal cavity ; it possesses a greater volume and less solidity than when it does not contain the Placenta.

‘This state of Uterus is generally produced by the manual extraction of the body and lower parts of the child, during the absence of the uterine effort, after the head and shoulders are protruded. Instead of passively waiting for the active expulsion of these parts, as before recommended, the operator drags them away suddenly, and, as it were, by main force.

‘The Uterus is therefore left under a state of imperfect, or of irregular contraction. The difference between the natural expulsion of the abovementioned parts, and the forcible extraction of them, with the effects thereby produced on the uterine tumour, and on the separation and exclusion of the Placenta, must be too obvious to every practitioner, to need illustration or comment. If, in this case, the Placenta have fallen down by its own weight, and be placed at the lower part of the Uterus, the insertion of the Funis may possibly, by a little management, be touched ; but frequently it cannot be felt ; the Funis seems to be lost within the Uterus, and the finger is unable to reach the general mass.’ pp. 47—50.

Under the circumstances now described, if no untoward symptoms are present, we are to wait for the returning contractions of the uterus to accomplish the entire separation and expulsion of the placenta. No limit as to time is fixed by the author, at which the placenta may be removed. This must be regulated by circumstances. It is a period of embarrassment to the physician, and he must exert his powers principally to remove the anxiety of the patient and her friends, more particularly the last, who will hardly fail to mislead his judgment, if he allows himself to be influenced by their fears. He is not to busy himself with useless efforts with the *funis*. By doing so, he will not only interfere with the return of regular pains, but may excite irregular efforts, or rupture the cord ; or, finally, suddenly detach the placenta, and produce dangerous flooding, or, what is worse, invert the uterus. If circumstances, let them be what they may, lead him to judge it best to remove the placenta before the uterus acts to do so, it is best at once to introduce the hand into the organ. This, though a painful operation, has in it but little, if any of the danger, which attends forcibly pulling by the cord.

Dr. R. next supposes another case :—

‘But let us suppose that the Placenta still remains entirely within the uterine cavity ; that there is no tendency to a return of uterine action ; that the uterine tumour continues high, large, and flaccid ; what length of time are we justly authorized to wait, before some decisive steps are taken for its removal out of the Uterus ?’

We are in this case ignorant of the real situation of the placenta. If no untoward symptom arise, it is but of little consequence whether the placenta remain in the uterus for two hours, or even more. There are, however, circumstances entirely independent of danger, which must have an influence over the measures of the practitioner. Among these, are the anxiety attending delay; the received opinion against an indefinite period; the hazard of reputation; the demand imposed on the time and patience of the physician; and the increased difficulty of rendering assistance after delay. Farther, the placenta cannot remain in the uterus an indefinite time without danger; it becomes a putrid mass if it be separated; and, if morbidly adherent, will come off only by artificial assistance. But how long shall we wait? Dr. R., after dwelling on the difficulty of deciding, first says, it will rarely be necessary to exceed two hours, and finally leaves the question pretty much where others before him have done, viz. that 'on an average of cases, it will be found that, if the placenta be not thrown off within an hour from the birth of the child, it is detained by some unusual cause. If hemorrhage, or other pressing symptoms suddenly intervene, an earlier removal will be required; otherwise every thing like hurry or haste ought carefully to be avoided.'

The following is the method recommended by the author for the manual removal of the placenta, having premised that the operator should take off his coat.

'The patient is to be placed on her left side, with her knees bent up towards the belly, and with her nates at the edge of the bed: the accoucheur, seating himself on a low chair, or kneeling on the floor, gradually and cautiously introduces his left hand, formed into a proper shape, and previously besmeared with pomatum or lard, into the Vagina, and thence into the Uterus, gently dilating and distending those parts in its passage. Now, having accomplished the first part of the operation, by the introduction of the hand, the nature of the case will be known, by which the future conduct of the hand within the Uterus must be regulated; if, at this time, the Funis be gently brought to its bearing by the right hand, so as to act slightly on the Placenta, the mode in which that mass is disposed of in the Uterus will be the more readily determined. During the introduction of the left hand, the application of the right hand externally on the uterine tumour, with a degree of grasping compression, may be advantageously made.

'If the Placenta be now found partially or more generally adherent to the uterine surface, a loosened portion is to be sought for, and the fingers being cautiously insinuated between it and the Uterus, a further separation is gradually, and carefully, to be made by a lateral or other motion of the hand, till the whole mass be within its

grasp, when it is to be slowly extracted. While the left hand is thus occupied within the Uterus, its action is much assisted by the external grasp of the right hand, as abovementioned : it steadies the Uterus, and prevents that rolling motion, which considerably baffles manual separation. Much difficulty is sometimes experienced in the separation of an adherent Placenta, by the strong contraction of the Uterus on the hand, and by its rolling about in a singular manner ; the above expedient obviates that inconvenience.

‘ If the Placenta be retained by irregular contraction of the uterine parietes, whether it be of the longitudinal description, termed the hour-glass contraction, or globe like, the contracted part is to be slowly and cautiously dilated, and distended by the hand, till the general mass of the Placenta can be enclosed within its grasp, when it may be gradually withdrawn.

‘ If the Placenta be found detached from the uterine surface, and be merely retained from the want, or absence, of the contractile effort, the stimulus of the hand within the Uterus usually induces a return of active contraction, so that the hand, with the Placenta within it, seems almost to be expelled ; should this not be the case, a very slight degree of extractile power will be sufficient to withdraw it. This state of Uterus is frequently met with after operative midwifery : after the birth of a still-born child : in those instances in which the uterine efforts have been much exhausted previous to the birth of the child : and in those in which the child has been extracted during the birth, instead of being allowed to be expelled.

‘ In every instance, after the manual extraction of the Placenta, before the patient be finally left, the hand should once more be applied upon the Abdomen, that the state of the Uterus, as to the degree of contraction it has acquired, may be now ascertained. The mind is thus satisfied of present safety, or warned of future danger.’ pp. 59—61.

When the after-pains continue distressing, beyond the second day after delivery, an active purgative produces almost certain relief.

‘ After-pains seldom produce febrile symptoms, even when excessive. If febrile symptoms, accompanied with local pain, do, early after delivery, make their appearance, the cause is more deep-seated than meets the eye : they are either connected with a loaded state of the uterine vessels, or with inflammatory action.

‘ When the Uterus continues for some days much increased in size, without the exertion of contractile effort ; when its vessels are distended with blood, and there is a sparingness or entire disappearance of lochial discharge, a degree of tenderness is felt in the uterine tumour, especially on pressure, which presently advances to a state of continued pain, and its effects are soon transferred to the general system ; we have then the appearance of symptoms of febrile irritation : if they be not early attended to ; if they be not

speedily relieved, by general or local bleeding, and by free intestinal evacuations, the mischief rapidly increases, and the life of the patient is soon at issue.' pp. 64, 65.

Lochia.—This the author defines to be, a temporary drain of a sanguineous fluid from those uterine vessels, which, before delivery, had a free communication with the placental cells, and is the consequence of the regular diminution of the uterine tumour after delivery. When healthy, it has no unpleasant smell. It is at first purely sanguineous, and then becomes serous. Its quantity depends on the greater or lesser degree of contraction after delivery. It continues between three and four weeks. It may return again upon any extraordinary exertion on the part of the woman. The sudden check of the discharge a few days after the confinement, may be a prelude to serious disease with febrile symptoms.

'It is not to be supposed that this state produces these symptoms; it is the mere indication of the accession of disease, of which such symptoms are the necessary attendants. We, therefore, pay little attention to the present interruption of the lochial discharge, except as a symptom, and use no specific means for restoring it, or for obviating its supposed bad effects: we apply our endeavours to the removal, or relief of that cause by which the temporary interruption is produced.' p. 67.

The concluding pages under this head, contain many sensible remarks on the moral and physical purposes of lactation.

On Adhesion of the Placenta.—The subject of the management of the placenta is treated after a fuller manner by Dr. R., than by any writer we have had an opportunity to meet with. It occupies a considerable portion of this volume, and offers the student, and particularly the young practitioner, very useful rules of practice. Of the fact of adhesion we can become positive only by introducing the hand into the womb. It may be suspected, when we cannot feel the placenta by the finger; when the uterus continues high and large, and the cord rebounds after putting it on the stretch. An irregularity of the uterine tumour, and its fundus being conical and pointed, have been sometimes observed by Dr. R. during adhesion. Adhesion may be met with after all sorts of labours, and exists in different degrees. At times the placenta is readily removed by the hand, while the womb will not throw it off; at others, its artificial removal is attended with great difficulty.

Among the circumstances which have been noticed as preceding the adhesion of the placenta, Dr. R. mentions blows, pressure, falls, or other external injury on the belly during the latter part of pregnancy. It has been observed in a case in

which a constant dull pain has been felt in the uterine tumour, particularly in the night time. External injuries do not always produce adhesion, for the uterine tumour is large, and the seat of the placenta may escape injury. The evidence in favour of adhesion furnished by introducing the finger along the cord and without being able to feel its insertion in the placenta has been referred to. There is a case, however, in which the place of insertion may be felt, but in which a portion of the placenta may still adhere.

‘It sometimes happens, however, though rarely, that while a small portion of the upper surface of the Placenta still continues adherent, the opposite edge and side are pushed down upon, or protruded through, the os uteri, and even the insertion of the Funis comes within reach of the finger. This case forms one of the most deceptive that can occur in practice, and demands more than ordinary caution in its detection and management; for if, on the presumption of the above appearances, the Placenta be supposed to be entirely detached, and an active attempt be made to withdraw it by pulling at the cord, either the mass of the Placenta will be torn, and a portion of it left behind adherent to the Uterus, or the Funis will be broken off, and the future guide to the removal of the Placenta be lost.

‘This case is to be suspected by the mass of the Placenta being elongated, by a portion of it being within reach, while the remainder cannot be surrounded by the finger; by an opposing resistance to the degree of extractile purchase offered by the Funis; and by an increase of hemorrhage on every attempt to extract the Placenta by the cord.’ pp. 78, 79.

‘In all cases of adhesion, after an uncertain time, hemorrhage ensues.’ The blood may be fluid and florid, coagulated and dark, in small or great quantity. Hemorrhage may occur soon after delivery, or not under an hour or later. In these cases, the uterus is indisposed to active contraction. The bleeding may go on and sink the woman. Pressure on the uterine tumour increases the flow. In this state of things, particularly if the drain though slight, be constant, the practitioner is cautioned not to defer the removal of the placenta too long. More blood must be lost by the manual operation; and this is always to be taken into our account when the question of delay is agitated. The author alludes to cases in which great hemorrhage occurs soon after delivery, when his attention has been directed to the child perhaps, or from some other cause been diverted from the mother. Nay, sometimes the patient is irretrievably depressed, before any steps can be taken for her safety. The cause and circumstances which influence the degree of the hemorrhage are

next mentioned. From the facts in this connection, the author arrives at the following conclusion:—‘I think it will generally be found, that when hemorrhage occurs between the birth of the child and the removal of the placenta, its cause, in the majority of cases, depends on the partial adhesion of the placenta.’

‘Upon the introduction of the hand, it is always gratifying to meet with some resistance on the part of the Uterus, and to find contraction continue so powerfully, after the separation, as almost to expel the hand, with the Placenta within its grasp: it is equally mortifying to witness its absence, and to leave a flaccid state of Uterus.’ p. 83.

The following are symptoms which manifest the effects of hemorrhage when it is gradual, but constant:—The countenance becomes bleached, pulse small and rapid; faintness comes on, which may end in complete syncope, with frequent sobbing or sighing; respiration is quickened; the eye loses its lustre, and the woman complains of her sight failing; and now and then of a sense of swimming in the head, or a pulsatory pain. Under these circumstances we are not to delay removing the placenta. The danger of the woman is not to be measured in all cases by the quantity of blood lost. Some women will sink from the loss of a quantity which will produce little or no effect on another. Generally, however, the more rapid and sudden the loss, the more immediate and violent are its effects. Equal symptoms of danger will at length occur from a gradual, but constant loss.

Concealed or internal hemorrhage.—This is one of the most serious attendants on partial adhesion of the placenta. It most frequently happens after the removal of the placenta. The fact of its occurring during partial separation, though rarely, is sufficient reason for speaking of it under the present head. Internal hemorrhage is owing to an indisposition in the womb to contract, after the partial separation or complete expulsion of the placenta. The vessels, which were broken by the separation of the placenta, continue to bleed. The state of the womb admits of its ready distension; and without more than an usual external discharge, an enormous quantity of coagulated and fluid blood may be accumulated in its cavity. Should uterine contraction now occur, or pressure be made on the uterine tumour, coagula will be expelled and the loss become obvious.

‘The case proceeds somewhat in this manner; after an inconsiderable discharge of blood for some time, which has excited little apprehension of danger, the patient becomes faint: if contraction now take place, or compression be made, coagula and fluid blood are expelled; and then the faintness is increased. In a short time the Uterus enlarges, and there is a repetition of the preceding symp-

toms. The face presently assumes an *exsanguined*, a death-like appearance. The patient becomes restless; she turns herself from side to side, and tosses about in various directions; she expresses extreme anxiety for the constant admission of fresh air, and is gratified by the use of the fan. By and by respiration becomes quickened and laborious, with deep and frequent sighing, and with repeated exclamations of her dangerous state, "*Oh! I shall die!*" "*How ill I am!*" And death soon closes this fearful, this anxious scene, with perhaps a previous convulsion fit, if the timely extraction of the Placenta does not interfere.' p. 87.

Dr. R. remarks on the greater danger of continued faintness, than of actual syncope. In the first the circulation, though diminished in force, continues, and blood continues to flow into the womb; in the last, the hemorrhage for the time ceases. A state of continued faintness, or repeated attacks of syncope, always indicate great danger, and justifies considerable alarm.

'The patient cannot be safe, till after the removal of the Placenta; yet I doubt whether the attempt ought to be made under a state of absolute syncope. At that time, under such diminution of vital energy, any addition to the loss already sustained may irrecoverably sink the patient, and an additional loss there must necessarily be. It appears to me desirable, therefore, to procure a revival from syncope by stimulants, or other means, before the introduction of the hand, else the patient may not survive the operation. The extraction of the Placenta cannot be supposed capable of restoring the quantity of blood which has already escaped, or of remedying the effects thence arising; it can merely prevent a farther loss. If extraction be deferred on this account, the patient should be carefully watched in the interval, lest hemorrhage be going on internally, or lest it should return. Under a state of great exhaustion, every ounce of blood becomes a matter of importance to the system.' pp. 88; 89.

The practice in the beginning of such a case consists in the application of cold to the abdomen, and the internal use of cool and iced drinks. The air of the room should be made cool, and the clothing of the patient must be diminished. If no effect on the hemorrhage be produced, the placenta must be removed. The author questions the propriety of indiscriminately employing cold under great exhaustion and extreme faintness; and prefers, under these circumstances, the moderate and judicious exhibition of stimulants. These will have no place in the beginning of hemorrhage. Vinegar and volatiles may be used during great exhaustion.

'A moderate, yet proper, degree of grasping compression on the uterine tumour, by the hand, thus enclosing it within its powers, may, in every instance, be practised before the removal of the Pla-

centa; but this expedient will be found the most certain resource, (the positive introduction of the hand excepted) for producing uterine contraction, when flooding continues, or returns, after that mass has been withdrawn. I am not an advocate for the exhibition of large and repeated doses of opiates in uterine hæmorrhage from the presence of the Placenta.' p. 90.

The situation of a patient after the placenta has been removed, in these cases is one of great depression and much uncertainty. She is, in the first place, to be made as comfortable as possible, without incurring the least risk of any fatigue. When somewhat recovered, in the after attentions that may be paid her, she is to take no active part, but should strictly retain the recumbent posture. Stimulants are now to be dispensed with, and some light nourishment substituted for them. We are to look for vascular reaction in such a case. Stimulants will tend to render this excessive, by destroying the proportion which would otherwise subsist between its degree and the remaining power of the system.

'One of the most distressing symptoms of vascular reaction, is a pulsatory pain in the head, especially on that side on which the patient is reclining. It is described as a noise resembling the tick of a clock, or the beat of a small hammer. It is extremely annoying, and prevents natural rest. This symptom spontaneously and gradually disappears in a few days, as the patient improves; but being so extremely unpleasant, a request is usually made for relief from medicine. That object is more readily and more certainly obtained by early and active evacuations of the bowels than by any other medical means. Opiates seem rather to increase than to diminish this troublesome symptom. The necessity of keeping the body in a reclined posture during its continuance, of abstaining even from any active attempt to raise the head, is evident to the patient herself in the inconveniences arising from a contrary conduct. I have always suspected this symptom to arise in irregular determination of blood to the head, from the loss of that equilibrium in the circulation, which is so regularly preserved under a state of health.' p. 91, 92.

This subject is closed by exceedingly useful remarks on the subsequent treatment of the patient, the importance of the subject, and the difficulties it presents on all sides to the physician who has but just entered on the business of his profession. Twenty-four cases illustrative of the foregoing remarks, are placed at the end of the chapter on adhesion of the placenta.

Retention of the Placenta.—In this case the placenta is entirely separated from the womb, but remains in its cavity. This may be produced by atony of the womb, or irregular contraction. A third kind is mentioned by Dr. R. "that in which the uterus is too quickly contracted in a globular form upon the pla-

centa, suddenly embracing that mass by an active grasp, before it has had time to escape out of the cavity.' In the first case, from atony, if hemorrhage be not present, it is proper to wait. The womb may be exhausted either along with the system in general, or from its own efforts. When it has recovered, it will act, and expel the placenta. If now the placenta under returning contraction be thrown into the vagina, it may be removed by the funis, assisted by the fingers, or hand if necessary. Should a gradual but constant drain of blood occur, either external, and obvious by the flow; or internal, and the usual symptoms of hemorrhage come on, as denoted by the symptoms before described, the case allows of no farther delay. The placenta must be artificially withdrawn. 'The loss of blood during the act of extraction, is usually less in this instance, than in the preceding case, especially if the uterus contract upon the hand before it is withdrawn.' The first appearance of the abovementioned drain should be met by employment of the means commonly employed for restraining uterine hemorrhage, and in their failure which Dr. R. considers will most frequently happen, the placenta should be removed by the hand. Instead of this gradual flow or drain, a sudden and alarming hemorrhage may happen in the interval between the separation and expulsion of the placenta. The operation for its removal is here so strongly indicated, that it need not be insisted on.

The second species of retention, that which is produced by the hour-glass contraction is less frequent than the former, and may be owing to lingering or difficult labour, or to the too sudden extraction of the body of the child. In this last instance it is to be attributed to mismanagement of the case. Dr. Douglas attributes it to quite a different cause. His opinion has been noticed in a former number. How is this state of the womb to be ascertained? If we examine the uterine tumours externally, it will be found to be elongated, occupying by its length, a much greater length of the abdominal cavity than is common after delivery of the child. If the finger be introduced into the vagina along the cord, and into the os uteri, the placenta will not be felt. Hemorrhage sooner or later occurs, which may at first be trifling, but will gradually increase in quantity. Pains may come on with much severity, and still the cord will not be found lengthened, or the placenta brought within reach. If the hand now be carried into the vagina and uterus the cause of retention will become evident. The hand cannot be advanced far, but will encounter an obstruction, constituted by a strong contraction of

a portion of the uterus, through which contracted part, the cord will be found to pass. This case renders the artificial removal of the placenta a matter of absolute necessity. The hand, one finger at a time, is to be carried through and above the strictured part, when the placenta will be found occupying a cell or cavity formed by the fundus uteri above, and the strictured part below. This operation is an exceedingly painful one. The uterus is excited to excessive action by the contact and pressure of the hand against its sides. And nothing but the greatest care and gentleness in the whole procedure will insure safety to the woman. The mass of the placenta is to be grasped firmly, but the hand is not to be withdrawn until a regular contraction of the womb manifests itself. This ordinarily occurs very soon under the stimulus of the hand. In this case, should it be early detected, the practitioner is not to wait for hemorrhage or its symptoms, before he attempts the removal of the placenta. He should proceed to the operation as soon as it is ascertained that it is required.

The third case of retention is the rarest of the three. Dr. R. has met with it after rapid natural labour, in which the child has been born before assistance could be procured.

‘Under this state, there is little uterine discharge: the uterine tumour is small in size, firm and well contracted under the hand, and almost within the pelvis: the os uteri is firm, thick, and nearly closed upon the funis, passing within the uterus. Upon carrying the finger within the cavity, the placental mass is more or less partially to be felt, with the uterine parietes, in firm contraction upon it. It remains within the uterus, till time induces its removal, or relaxation of the uterus, with a subsequent effort, allows of its escape.’—pp. 150, 151.

All endeavours in this case to withdraw the placenta by the cord are to be strictly avoided. The only method of rendering assistance consists in gently dilating the mouth of the womb by the hand, grasping the placenta entirely, and slowly removing it. In determining the time *when*, we shall be but little influenced by hemorrhage, as in this case but little blood is ordinarily lost. There is therefore no need of hurry. But it is also a case in which nothing will be gained by delay, for the contraction will rarely if ever go off spontaneously. The return of pain will on the contrary increase the difficulty. Here follow five cases of retained placenta.

On the Disruption of the Placenta.—By this term Dr. R. designates those cases, in which the general mass of the placenta is broken, and a part of its substance is left behind in the womb attached to its original site. This is generally owing

to mismanagement, by pulling at the funis, and by rash attempts to remove an adherent placenta by the hand. 'In every instance it is big with impending mischief.' We ascertain its existence, by examining that portion of the mass which has been brought away. When the placenta has been brought off by pieces, this mode of investigation cannot be satisfactorily practised, some portion may remain firmly adherent to the womb.

'When a considerable portion of the placenta is broken off, and left adherent to the uterus, a degree of hæmorrhage succeeds, proportionate to the quantity left behind: there is commonly a frequent recurrence of after-pains: after some time, the discharge of fluid blood begins to diminish, but the occasional expulsion of coagula continues. For the first day or two, the patient suffers little other inconvenience than that which arises from the loss of blood, and the more frequent and the more violent returns of the after-pains. The secretion of milk is occasionally established; but the act of suckling produces an increase of uterine pain. These temporary returns of pain at length terminate in uneasiness of a more settled and more permanent description, which insensibly increases in degree, until it assumes the character of a continued tenderness of the uterine tumour, but which is temporarily increased by the pressure of the hand. The uterine tumour is generally well contracted. After the lapse of a few days, the local uterine irritation is transferred to the system, which is evinced in the accession of rigor, restlessness, watchfulness, anxiety, and the future progress of febrile symptoms. The pulse becomes at first quickened, afterwards hurried; the skin is dry and hot, especially on the belly; the face, though generally pallid, appears occasionally flushed, as if under the influence of hectic fever; respiration is quickened, and soon becomes laboured; the head is attacked with pain, which is continually upon the increase, until it ends in delirium; (sometimes the pain in the head is described to be of the pulsatory kind, resembling the tick of a clock); the appearance of the tongue is variable; sometimes it is dry, white, and furred; at others, it is dry and red; the eye, at first, assumes a glossy, and afterwards a languid appearance; the stomach is nauseated, and rejects the fluids taken into it, which are quickly altered in appearance and taste; if the secretion of milk has been established, it gradually declines until it at length disappears. The lochial discharge, which, for the first day or two, was sanguineous, becomes sanious, watery, and offensive to the smell; and in hot weather, especially, this offensiveness is so considerable, as sensibly to affect the lying-in room. Under the progress of these alarming symptoms, the state of the intestinal canal is uncertain; sometimes the bowels are confined, and demand the assistance of active purgatives; more frequently, they are spontaneously evacuated, and the appearance of the evacuations is rarely natural; the urine, when not tinged with the lochial discharge, is high coloured. These dangerous

symptoms progressively increasing, the general strength is exhausted, the pulse becomes quick and tremulous, the belly swells and is painful, the countenance is dejected and anxious; the patient is restless, tosses suddenly from side to side, throws her arms about, and is almost constantly under the influence of delirium; the fœcal evacuations and urine are involuntarily excluded, and death closes this melancholy scene within a week or ten days after delivery.

'In other instances, the symptoms of local and general irritation are of a milder and more chronic description; the patient appears to be extremely unwell, rather than dangerously ill, and continues under a state of uncertainty for some days, or even weeks; but at length they gradually wear off, and the patient in time gets well. Under such a state, I have several times remarked, that a puriform discharge, void of any unpleasant smell, has daily issued in considerable quantity from the vagina; which I have suspected to be furnished by the vessels of the inner surface of the uterus, as a sequela of inflammatory irritation. This discharge is not attended with any increase of pain. After its appearance the patient has considerably improved.'—pp. 162-165.

'The case being the offspring of ignorance or mismanagement, ought never to happen, and will not occur under common caution. But when it has actually happened, after the failure of the first attempt to remove the broken and still adherent portion, any farther manual assistance is inadmissible.' This is an important remark and particularly deserves the attention of the young practitioner. He is in danger from the solicitations, the unreasonable anxiety of the patient and friends, and from apprehensions on his own account, to continue his efforts for the removal of the retained portion, at a period after the accident when there can be no prospect of success. The woman is exhausted by these efforts, the irritation of the uterus increases the hazard of morbid processes, and gives an additional character of violence to those, which under the most cautious management are to be looked for. The uterus, after a reasonable effort has been made to free it of its remaining load, is to be left to itself as far as manual interference is concerned, and we are to prepare ourselves for the symptoms which are to take place. Hemorrhage, after pains, febrile or inflammatory symptoms, affections of the stomach, and bowels, and depression, in the latter stages of the case are among these symptoms, and in this case deserve very particular attention. Cleanliness is particularly adverted to in the treatment, and must be strictly enjoined and practised. Dr. R. speaks of injecting the vagina and uterus, with some astringent lotion. There is a singular propriety in their use in the case in question. We have tried a solution of alum in water, with benefit. In a little pamphlet we met with sometime since

by Dr. Murdock of Edinburgh on the management of the placenta, the benefits of this practice is strikingly shewn in a case in which the whole mass of the placenta was morbidly adherent.

Dr. R. in this connection mentions the occasional retention of a portion of the membranes in the vagina or uterus, after the removal of the placenta. In itself this is but of little consequence. The membranes will soon appear at the external parts, and will come away, or may without any difficulty be removed. Their appearance is sometimes alarming to the woman. Dr. R. has introduced this subject into his book, because occasionally the membranes will receive and retain a portion of blood, which will coagulate and become firm. This mass will be thrown off, and so exactly resemble the placenta, as to lead a nurse to believe that the physician has been careless in his attention on the case, and has allowed a part of the placenta to remain in the womb. If there is any difficulty experienced in satisfying any one on this point, all that is to be done is to throw the mass into water, and let it soak; the membranes may now be easily unfolded and separated, and the coagulum included within them exposed. Here follow six cases of disruption of the placenta.

On relaxation of the uterus after delivery, and its subsequent enlargement.—This is the condition of the womb, on which internal hemorrhage depends. This subject has already been noticed. The author introduces it again here, and as it would appear principally for the purpose of relating the case of the late princess Charlotte, which would seem to have been of this character. We extract the management of a case of this kind.

‘As it originates in the deficiency of that contractile effort, by which permanent contraction is produced, the grand point of attention ought to be directed to perfect it, or to supply its defect, by means of art. With this intention, apply the hand externally on the uterine tumour, enclose it firmly within the grasp of the hand, and gradually make a firm compression. This practice seldom fails to reduce its size, and to bring on an increased degree of contraction. The external application of cold may also be useful. Ices and cold fluids may be taken at pleasure. Little reliance can be placed on the effects of astringent medicines, yet they may be properly resorted to. Stimulants, under certain limits, are given with much advantage. If these means fail, the introduction of the hand within the uterus ought not to be deferred; this is a dernier resort to remove the coagula there accumulated, and to induce uterine action.

‘It ought not to be forgotten, that in proportion to the degree of depression induced by a sudden or large loss of blood, the uterus becomes more and more incapable of effecting its spontaneous contraction, so that the cause which is so strongly operating towards the destruction of the patient, is alarmingly progressive, unless time-

ly counteracted. If the introduction of the hand become necessary, it should be retained till uterine contraction be felt; and if the hand be almost expelled, the better for the patient.

‘During this time, stimulants become highly necessary, and almost universally produce the most beneficial effects; but their use must be omitted as soon as the patient begins to improve.’—pp. 195, 196.

Three cases follow.

On collapse after labour.

‘Shortly after the birth of the child, and the removal of the placenta, when the woman has previously appeared to be doing well, she complains of unusual faintness; says, she is extremely ill; at the same time she is unable to describe what is the matter with her. If inquiry be made into the state of the uterus, that viscus is found to be tolerably well contracted: if inquiry be also made as to the quantity of blood escaping externally, that is not unusually large. The woman complains of no pain about the belly; there is no mark of derangement there. Notwithstanding she rapidly gets worse; the pulse begins to flag; the countenance assumes a pallid cadaverous aspect; she becomes extremely restless; and ceases to express her feelings except by a moan. By and by, she is seized with a violent pain across the chest, and rapidly goes off, to the astonishment and grief of all around her.

‘The progress of these symptoms is usually so quick, as scarcely to allow time for thought, or action: the fatal scene is terminated within two hours after delivery, and sometimes within one, after the first complaint is made. If this progress be retarded by the means used, or if after-pains happily shew themselves in an active manner, the symptoms begin to subside, the woman feels herself better, and in a few hours is placed in a state of complete safety.

‘As to the means of counteracting this dangerous state, I fear that the best efforts will frequently prove ineffectual. But I think that the great object to be aimed at is, to keep up the action of the heart and arteries, by the exhibition of strong stimulants, such as brandy and ether, in hopes of the restoration of a due degree of equilibrium in the system. If a truce be obtained, the woman will do well. At the same time, I recommend a proper degree of pressure on the abdomen, by the hand or otherwise. The return of the after-pains being so obviously useful, the application of a grasping pressure to the uterine tumour itself, may prove advantageous.’—pp. 207–209.

The proximate cause of this state does not seem understood. Cases follow.

Protracted labour under a natural presentation.

‘Protracted cases may be practically divided into three orders, which vary as much in their causes, as in the degree of difficulty attached to each.

‘1. Lingering labours, in which there is a mere consumption of time without any unfavourable symptom.

‘2. Labours combined with a slighter degree of difficulty, but which cannot be surmounted by the natural efforts alone.

‘3. Labours combined with an increased degree of difficulty, with a relative disproportion between the size of the head and the capacity of the pelvis.’—p. 219.

‘Three general causes conduce to protraction :

‘1.—An undue degree of resistance in the soft parts opposed to the propulsive efforts.

‘2.—Diminished energy and activity of those efforts.

‘3.—An improper direction or position of the head of the child, as it respects the pelvis.’—p. 220.

Dr. R. next mentions the means usually resorted to in protracted labour.

‘The means usually resorted to, may be ranged under five several heads :

‘1.—The internal exhibition of opiates.

‘2.—The abstraction of blood.

‘3.—The repeated injection of warm clysters.

‘4.—The internal use of warm fomentations.

‘5.—The exhibition of *placebo* medicines.’—p. 225.

Of the first of these means Dr. R. expresses no very favourable opinion. His arguments bear principally on their use when given for the relief of the pains of labour. He justly regards these as severe in a majority of cases, and necessarily so, and infers that to diminish pain is to retard labour, and that in this way what would have been natural as to time, will be made to assume the character of a protracted case. At page 228 we have the following remarks :

‘Opiates sometimes, instead of allaying the pains, seem to increase their power : this effect is, however, so accidental, as not to be depended on. When given in small doses, they produce less inconvenience, but they do little good.’

We have in a preceding number spoken of the beneficial effects of opium, when given in some cases of protracted labour. It was our intention to have offered some additional remarks on that subject in this place. This article however has already occupied so much space that we must hasten to a close.

This author in the next place speaks of the practice of blood-letting in laborious labour. The following extracts will give his views on this subject.

‘When uterine action has been violently continued for many hours, in a stout young woman, or in one of a full habit, a varied train of febrile symptoms makes its appearance ; the skin becomes hot, with

or without perspiration; the face is flushed; the cervical veins are turgid; and the patient complains of pain in the head; under such symptoms, the loss of from twelve to sixteen ounces of blood from a free orifice, proves highly beneficial. If to these symptoms be added vertigo, or indistinctness of vision, the necessity of the measure will be more obvious. In such a case, abstraction of blood has a reference to the relief of the febrile symptoms.

‘But when the os uteri continues rigid for a length of time, under repeated returns of uterine action, with the head of the child incessantly pressing upon it, in the absence as well as presence of pain, a loss of blood, proportionate to the present strength, frequently produces a favourable change in the parts; after which, relaxation proceeds more kindly and successfully. Yet, in the more early stages of a lingering labour, when the soft parts do not give way freely, I have not remarked the same beneficial effects. But the relaxant benefits derivable therefrom, are confined to a case of undue rigidity in the os uteri alone: they are not extended to rigidity of the vagina, or external parts, after the os uteri is opened.

‘Upon the whole, blood-letting, in simple lingering cases, is seldom, of necessity, called for; but that every advantage may be derived from the operation, when necessary, the blood should be drawn from a free orifice, and in a full stream, that the best effects of the measure may be obtained at the least expense of the vital fluid; otherwise, blood-letting does more harm than good.’—pp. 229–231.

On the advantages to be derived from injections, and fomentations in this class of labours, few will be disposed to differ from Dr. R. The following extract is highly deserving notice. It relates to a state of the bladder which is not unfrequently met with in this class of cases.

‘Under every case of protracted labour, the bladder ought to be carefully watched; the most serious consequences may ensue from neglect or oversight, independently of the additional pain which the patient suffers from distention.

‘When the head of the child occupies the pelvis, and remains in that situation for a length of time, the urethra becomes compressed between the head and the pubes, so that the bladder is prevented from evacuating its contents; distention of the bladder necessarily follows, and, in proportion to its degree, the patient has to contend with an increase of suffering, very different from labour-pain. This state of bladder may be always recognized by the simplest and readiest means, viz. by the mere application of the hand on the lower part of the abdomen, accompanied with a slight degree of pressure. If the bladder be distended, two tumours will be distinctly perceptible; the one, at the upper part, extending the majority of the abdominal parietes, is formed by the uterus with its contents; the other, at the lower part, immediately above the pubes, is formed

by the distended bladder. Under this state of things, relief will be immediately obtained by the use of the catheter.'—pp. 235, 236.

Cases of protracted labours of this class follow.

Dr. R. next treats of labour as protracted by diminished energy and activity of the uterine efforts. His views of the management of these cases are very judicious. There is but little suffering and little exhaustion, though the case may continue many hours or days. The physician who does least here, will do best. He is to avoid irritating the os uteri or internal organs by frequent, and useless examinations; and the membranes in the majority of cases, are to be ruptured by the natural efforts. Dr. R. alludes to the employment of ergot. He has no experience on the subject, but is disposed to regard the practice as liable to many objections. He declares himself a sceptic concerning its alleged powers.

'After the exit of the head, it now and then happens that the child does not breathe within a reasonable time; then the anxiety of the accoucheur may induce him to a more rapid extraction of the body and breech, than is warranted in common cases; but such extraction must ever be made at some risk to the mother. If it be thought necessary, for the sake of the child, the right hand may be kept upon the contracting uterus, while the left performs the office of extraction, partly to assist the passive contractile effort, and partly to announce its degree with reference to the safety of the mother.'—p. 243.

Protracted labour from wrong position or direction of the head. In the management of these cases, we are to consider in the first place the effects of the labour on the patient. If no bad symptoms are present, and the head advances, though slowly, we are not called on to do any thing. If in the next place, the labour have already been protracted, still no untoward symptoms are present, and we find that for the last twelve hours, no alteration under fair uterine contraction has been produced on the progress of the head, 'what reasonable expectations can be entertained, that the next twelve hours will finish the process? The child has an interest in this question, for long continued pressure in an unfavourable position, cannot but exert some influence over its safety. In such a case the judicious application and use of instruments, constitutes the best practice. Three cases follow.

In the next section Dr. R. treats of protracted labour, under a natural presentation, combined with a slight degree of difficulty. This head includes those natural cases of protraction, under which the expulsive powers either give way, or are in danger of giving way, so that they become unable, of themselves, to

complete the act of labour.' The immediate causes of these cases may be, a disproportion in size between the child's head, and the pelvis, though the presentation may be the most favourable; a wrong presentation with a similar defect in the pelvis; the presentation of the hand or arm along with the head, or a contraction of the soft parts in consequence of injury done them in a former delivery, the pelvis being of its natural dimensions. The means which may become necessary in such cases, are mechanical. They are such as do not involve any hazard to the child, should it be alive. These means are the forceps and vectis. Dr. R. is disposed to prefer the first. The only plea for the use of either of these means is necessity. It is a point of great difficulty to determine in a given case, whether it shall be trusted further to the natural efforts, or whether artificial means shall be tried. We can decide only by the symptoms, or the effects of the labour as manifested by general or local disease. 'Yet,' says Dr. R. 'let us ever bear in mind, that more injury may possibly accrue from too long delay, than can arise from premature assistance.'

Dr. R. goes on to inquire into the nature of those marks and symptoms, the presence or absence of which establishes the necessity of instrumental assistance. They are complex and various. We extract the several heads under which this subject is considered.

- '1.—The condition of the os uteri, and of the soft parts.
- '2.—The past and present degree of uterine action, with the effects it has already produced, and those it appears to be still producing.
- '3.—The relative size, and situation of the head.
- '4.—The length of time the head has remained in the same situation in the pelvis, without advance on the accession or continuance of pain, and without retreat on the diminution or cessation of it.
- '5.—The lapse of time since the commencement of active labour.
- '6.—The extent of pressure upon the soft parts, and the time they have been subjected to it.
- '7.—The appearance of the vaginal and uterine discharges.
- '8.—The degree of permanent pain in the uterine tumour, and abdominal parietes.
- '9.—The obvious impression made on the system, by the continuance of the expulsive efforts, shewn in the access of febrile symptoms, in the approach of exhaustion of the vital and animal powers, or in the attack of vomiting, or rigor.
- '10.—The age and natural constitution of the patient.
- '11.—A feeling of confidence, or of depression of mind.
- '12.—A first or subsequent labour.

- ‘ 13.—The previous state of health, and habits of life.
‘ 14.—The probability of the life or death of the child in utero.
‘ 15.—The temperature of the weather at the time prevalent.’—
pp. 257–258.

Each of these several heads is treated by the author with great minuteness, and his excellent talent for discrimination is no where more visible than in this section. It does not admit of an abridgment, for one part deserves as full a notice as another. He has said no more than is absolutely necessary to be perfectly intelligible, and we could not present it in a shorter compass than he has. We have left ourselves no room for the whole.

In cases in which the head presses firmly on the lower part of the bladder or the urethra, the author has succeeded in introducing a *flat* catheter, where the introduction of the common instrument has been impossible. The following extract is made because it gives a sketch of the effects occasionally produced on the patient by protracted labour.

‘The obvious impression made upon the system by the continuance of the active exertions of labour is in every instance a deserving object of close observation. When, in consequence of the repetition of vain expulsive efforts, a pungent sense of heat is perceptible on the skin; when the tongue becomes white and dry, or brown and foul; when the lips are parched; when there is a constant pain in the head, which is rather upon the increase; when there is a dark-coloured flush upon the face, with a rapid small pulse, such symptoms indicate the advance of febrile irritation, the progress of which will only be checked by timely delivery. If to the preceding symptoms be added a dejection of countenance, expressive also of great anxiety; a languid eye; a hurried and difficult respiration; a low delirium; occasional rigors, with vomiting of a coffee-grounds-like fluid, the urgency of immediate delivery becomes the more obvious. But in such an extreme case, even this dernier resort seldom answers the object intended; nevertheless, it offers the only chance of saving the patient; and no woman ought to be allowed to die undelivered in such a case, if delivery be practicable. The progress of the symptoms to this extremity is usually gradual; it is seldom rapid, except under hæmorrhage. It is indeed sometimes so slow, as to elude observation from hour to hour, till the case assumes a dangerous aspect. Besides, a false security, as to the safety of the patient, is now and then induced in the mind of the accoucheur, by that listlessness which is frequently consequent upon a protracted attendance, and by having long witnessed, with apparent impunity, the sufferings of the woman.’—pp. 272, 273.

In the next section the author treats of protracted labour under a natural presentation, combined with an increased degree of difficulty. Under this section are ranged those cases, in which there is such a relative disproportion between the size of the head of the child, and the capacity of the pelvis, that the head cannot be propelled or extracted whole and entire; a diminution of its volume, therefore, offers the only chance of delivery, and the sole hope of rescuing the mother from that danger, which otherwise awaits her.'

The remarks made respecting the preceding section apply to this. The last section is devoted to the rupture of the uterus. This subject came before us, in the analysis of Dr. Conquest's work in the last volume of the Journal.

We have intentionally abstained from minute criticisms of this work of Dr. Ramsbotham, both as it regards the theoretical views of the author, and the practice he inculcates. Our object has been to present the reader with an useful analysis of those portions of the volume which relate more particularly to practice. From the examination of the work which we have made, we agree entirely in opinion concerning its merits, with the respectable European Journalists by whom it has been fully commended.

ARTICLE V.

Boylston Medical Prize Dissertations for the years 1819 and 1821. Experiments and Observations on the Communication between the Stomach and the Urinary Organs, and on the Propriety of Administering Medicine by Injection into the Veins. By E. HALE, Jun. M.D. M.M.S.S. Boston: Oliver Everett and Joseph W. Ingraham. 1821.

WE gave in a late number a short notice of these Dissertations, and took occasion then to express some opinion with regard to their value and merits. We intend at present to give our readers a more full and particular analysis of their contents.

The first Dissertation is upon the long agitated question of a communication between the stomach and bladder, more direct than that through the circulation and kidneys. An opinion that there is such a passage is traced by our author, back to the earliest periods of medical history. Hippocrates 'evidently supposes a communication between the liver, and stomach, and urinary organs.' 'Galen expresses the same opinion more explicitly; and in support of it, takes notice of the circumstance, that,

in certain cases, fluids taken into the stomach are very speedily rejected by urine.' Both of these writers attribute to the veins the office of effecting this communication. Alpinus quotes the opinion of Galen without addition, thereby at least giving his assent to it. Fabricius ab Aquapendente speaks confidently of the existence of such a passage, and offers an hypothesis by which to account for the circumstance, more remarkable for its ingenuity than its probability, and very little for either. Thomas Bartolinus went so far as to imagine that he had discovered the very vessels themselves by which the communication in question is accomplished, and undertook to demonstrate them to be branches of the lacteals sent off to the kidneys which squeeze out the serum into the reins, the emulgent arteries or the capsules of the Atrabilis—and elated by this wonderful success, takes occasion to sneer at the more humble attempts of Aquapendente, Piso, and Comingius, who had been as fertile in conjecture, but less clear sighted than himself. Diembroeck is sure of the existence of such a passage, but in doubt about the nature of it. The Philosophical Transactions, for 1667, infer its existence from a case in which air blown into the thoracic duct, was found to inflate the emulgent vein; and Dr. Fairfax, in the volume for the next year, confirms the same conclusion by a case in which a bullet was voided by urine, which he *supposed* to have been swallowed. In the latter part of the seventeenth century, a few experiments were performed with a view to this question, in which the ureters were tied a few hours before death, but, with one exception, no urine was found in the bladder. A number of other authors are quoted, most of whom seem to have entertained the belief that such a passage does exist, but without examining very minutely into the grounds of their opinions, and in general adopting them upon very light and trivial circumstances.

Boerhaave was one of the first who explicitly opposed the commonly received doctrine, and denied the existence of any distinct mode of communication from the stomach to the bladder. Darwin, on the contrary, was a strenuous believer in the existence of such a communication, which he conceived was effected by the retrograde action of the absorbents. But Sir Everard Home seems to have been the first who made any considerable advances towards determining the controversy. The result of his experiments was to show, that a large portion of the liquids taken into the stomach are absorbed from that organ directly into the blood without going the circuitous route of the intestines and lacteals; and that the increase of urine produced by the drinking of liquids is not the consequence of a sympathetic excitement

of the kidneys, but of the actual transmission of the liquids taken into the stomach to the kidneys.

Dr. Hale enters into a more full account of the observations and experiments of Sir Everard Home and Dr. Darwin, and the conclusion from the whole examination of what had been done by previous inquirers we give in his own words.

‘On the whole it appears, that the principal ground for the very general belief of the existence of a communication between the stomach and bladder, more direct than through the circulation and kidneys, is the difficulty of otherwise accounting for the speedy appearance of fluids in the urine, which have just before been taken in drink. The most diligent research has never been able to discover the medium of such a communication; and no probable mode has ever been pointed out, by which it can take place. Every experiment, which has been performed, to show its existence, has been contradicted by others, performed under circumstances, which apparently entitle them to, at least, equal confidence. If then it should be made to appear, that all the phenomena connected with the rapid production of urine, can be explained by the natural functions of the organs which are known to exist, the necessity will be removed, of *supposing* such as have never been discovered.’ p. 37.

In pursuing this inquiry, the first object of our author is to ascertain what length of time would be necessary for fluids to be carried from the stomach to the bladder, through the medium of the circulation. Upon the supposition, that there are forty pounds of blood in the human subject, a complete circulation of any quantity of that fluid, would, he calculates, be completed in six minutes and fifty-two seconds—and upon the supposition that there are only thirty pounds, in five minutes and one second. Proceeding upon this estimate, he makes the following calculation:—

‘It is to be remembered, however, that the course from the place where the fluids of the stomach enter the blood, to the kidneys, is very far short of a complete circulation through the whole body. I shall here take it for granted, that the absorption of fluids directly from the stomach, is sufficiently established by Mr. Home. The distance from the stomach to the kidneys, through the circulation, then, is that from the stomach to the heart, through the lungs, back to the left side of the heart, and from the mouth of the aorta to the terminations of the emulgent arteries. This at the most, cannot be supposed to exceed one half of an entire revolution in the circulation; and is probably less than one fourth. The time requisite, therefore, as far as the circulation is concerned, for fluids to pass from the stomach to the kidneys, is not more than from two to three and a half minutes; leaving the remainder of the time, which actually intervenes between their being taken in drink, and ejected

in urine, to their absorption in the stomach, and their secretion and excretion in the kidneys and bladder.' pp. 40, 41.

Admitting then the fact to be established by Sir E. Home, that the liquids taken into the stomach are directly absorbed from that viscus into the circulation, their passage to the kidney with the blood would occupy but a very short time; and the speedy appearance in the urine might easily be accounted for, without supposing the existence of any distinct vessels for this particular purpose, especially as we have no reason to believe that the act of absorption from the stomach, or of secretion by the kidneys would occupy any great length of time.

So far it would seem then, that there is even *a priori* very little ground for the belief so commonly entertained of the existence of any peculiar communication, that the ordinary course of things sufficiently explains all the facts upon which the belief of such a communication has been founded, and that the burden of proof fairly lies upon those who admit and defend the opinion of its actual existence.

Nevertheless, Dr. Hale performed a number of experiments in the prosecution of this inquiry, with a view to determine as exactly as possible the course which the substances do take, which make their appearance in the urine so soon after being taken into the stomach. These experiments were principally performed upon his own person—they are given in full detail, but we shall be contented with presenting to our readers a summary of their results in the author's own words.

'1. The speedy discharge of watery urine after taking a large quantity of liquid in drink, is not occasioned by sympathetick excitement of the urinary organs, but by the actual excretion of the fluid received.

'2. The same portions of fluid, which are received into the stomach, begin, under certain circumstances at least, to be collected in the bladder within twenty minutes from the time when they are taken.

'3. When a large quantity of fluid is taken, the excretion of urine is greatly increased; but the increase does not bear any very exact proportion to the quantity of drink. The increased discharge begins in about twenty minutes, is at its height in about an hour, and terminates, generally, in less than two hours.

'4. When a liquid which is coloured with rhubarb is taken, the colour of the rhubarb appears in the urine; and its appearance in that excretion is not at all confined to the time of the increased discharge, which is occasioned by the quantity of fluids received.

'5. When a liquid, which is of such a nature as to admit of ready detection in the animal fluids, is taken into the stomach, if the quantity is sufficiently large to affect the whole mass of blood, it will

be found in the blood drawn from the veins as soon as in the urine ; although it will continue to appear in the urine after it has disappeared from the blood.

‘ 6. When a quantity of colouring matter sufficient to affect the whole mass of blood is taken, mixed with a large quantity of liquid, the colour appears in the urine as soon, at least, as the excretion *begins* to be increased, and is at the deepest before the increase of urine is at its height ; but if the quantity of colouring matter be only a little more than sufficient to tinge the amount of liquids taken, it does not appear in the urine until after a considerable quantity of watery urine has been passed, and does not give its deepest colour until some time after the excretion has diminished.’ pp. 56, 57, 58.

‘ 7. The rapidity, with which fluids pass from the stomach to the bladder, is not increased by increasing their quantity.’

‘ 8. It results from the whole, that the only mode by which fluids, received into the stomach, can pass into the bladder, is by an absorption into the blood, and subsequent secretion by the kidneys.’ p. 61.

One could have little disposition, after the perusal of this Dissertation, to contend for the existence of any more direct communication from the stomach to the bladder than that which is furnished by the ordinary course of the circulation. Indeed it is a little singular, that such a belief should have ever prevailed to any considerable extent. Scarcely any anatomist has attempted to point out the canals by which the transmission is effected. If such canals do exist, they have eluded the most strict scrutiny of the dissector, and must, therefore, be very small or very circuitous, and therefore present difficulties as great as are to be encountered upon any other supposition, and besides the provision would be totally without object, without use—no purpose could be answered by it, so far as we understand the functions and relations of the urinary apparatus, which is not equally well answered by the ordinary arrangement.

The second Dissertation of Dr. Hale is upon a question of a more doubtful nature, brings him more upon debateable ground, and opens a wider field for experiment. Although the injection of foreign substances into the veins of animals in various physiological investigations has been a frequent experiment among philosophers ; and although the facts which have been in this way elicited, have a bearing upon the subject of this Dissertation, yet these inquiries have not been made with any particular view to the improvement of practical medicine, or to the safety or expediency of extending the same operations to the human subject. The most ardent, devoted, and zealous of those who have prosecuted the study of physiology by means of experiments upon the lower animals, have

religiously refrained from laying the profane hand of inquiry upon the human species, whether in their own person or that of others. Much may be presumed, much fairly inferred with regard to the human subject from what happens in experiments made upon animals; and all new experiments judiciously performed may serve to strengthen and confirm the deductions which have already been made—but although an approach is thus constantly made to certainty in our conclusions—that certainty is never reached; as in a circulating decimal every recurrence of the repetend brings it nearer to an unit, and yet if infinitely repeated it never arrives at it. Every instance in which a medicinal substance is injected into the veins of an animal, and an effect is produced which corresponds to the known qualities of that substance, and this too without any injurious consequences to the life or health of the animal employed from the operation itself, renders it more and more probable that the practice might be extended with safety and propriety to individuals of our own species—and yet no number of such instances would perfectly satisfy us that the practice was advisable, or would be successful till the attempt had actually been made.

Our author, in the course of his experiments, performed one upon himself, of which we shall speak more particularly hereafter—and this is, we believe, the only well authenticated one upon record, in which any medicinal substance has been introduced into the veins of any individual of our own species, and this circumstance gives to it of course a peculiar interest. The subjects of his other experiments were rabbits, and the substances injected of several different kinds. The account of them is preceded by some notice of the labours of previous inquirers in the same path of experiment, and the result of an examination of the facts which they have brought to light is an impression somewhat favourable to the practicability and safety, if not the expediency, of extending the same experiments to our own species.

Dr. Hale, however, from his own investigation, arrives at a different conclusion. Of the experiments he performed in the course of it, we proceed to give a short abstract.

Experiment I. About four scruples of castor oil were injected into the jugular vein of a rabbit. Within about four hours afterwards there were fifteen discharges from the bowels, some of them copious; and during the subsequent night there were several more. By way comparison two drachms were forced down the throat of another animal of the same species, but no sensible operation was produced by the medicine.

Experiment II. An attempt was made to make an injection into the crural vein of a rabbit, but the vein being found too

small to admit the tube of the syringe, the experiment was relinquished.

Experiment III. The same rabbits were used as in Experiment I., the injection being made into the animal which, in the other case, had taken the medicine into the stomach and *vice versa*. A drachm and a half by measure, of an infusion of rhubarb of the strength of half a drachm to the ounce of water, was thrown into the jugular vein; no operation upon the bowels was produced. The other rabbit, who had in the previous experiment undergone the injection, was made to swallow two drachms of the same infusion half an hour after; he passed a small quantity of feces, but had no other operation within twenty-four hours, when he had three pretty copious stools.

Experiment IV., was an attempt to inject an infusion of ipecacuanha into the crural vein; but as in Experiment II. the vein was found too small to admit the tube of the syringe. This and the second experiment are merely introduced for the purpose of showing that very considerable injuries of the veins, such as were inflicted in these trials, are not always followed by inflammation, and do not prevent the speedy healing of the wounds; as happened in both these instances.

The five next experiments were performed with the view of ascertaining what would be the effects of a few medicinal articles when given by the mouth to rabbits, in order to serve as standards of comparison.

Experiment V. Six drachms of an infusion of colocynth of the strength of half a drachm of colocynth to an ounce of water were given to a rabbit in divided doses. The medicine produced no effect.

Experiment VI. An infusion was made from a drachm and a half of the powder of ipecacuanha and two ounces of water. Two drachms were given at first, and in half an hour the dose was repeated. Within three hours there were several stools, some copious in quantity, but of a natural appearance.

Experiment VII. Four drachms of the infusion of rhubarb, prepared as in Experiment III., were administered without any effect whatever.

Experiment VIII. Two scruples of powdered ipecacuanha were given without any operation.

Experiment IX. Five grains of tartar emetic were administered, dissolved in a little water; in half an hour afterwards the same quantity was repeated. No sensible effect followed which could be attributed to the antimony, except the death of the animal, which took place in the course of the next night.

Experiment X. We think proper to present the detail of this experiment at length in the words of the author, on account of the peculiar interest it derives from the circumstance of being performed upon his own person.

‘*Experiment X.* FEBRUARY 20. Having been persuaded, from my own observations, and those of others, that some of the milder medicines may be injected into the veins with safety, I resolved to make the experiment upon myself. Accordingly I filled a half ounce measure with cold pressed castor oil, and placed it in a basin of water of the temperature of 100°; one drachm of it, I drew into a syringe, and placed this also in the basin; it being my intention first to inject one drachm, and if I should feel no inconvenience from it, to continue the injection of the remainder of the half ounce. When I had made all the preparations which I thought necessary, I sat down and counted my pulse, and found it to beat eighty times a minute. I was in good health, but could not avoid some little agitation and excitement of feeling at the novelty and uncertainty of an experiment upon myself, which, so far as I knew, had never been attempted upon any human being; and this had a little quickened my pulse.* An assistant (a medical student) placed a ligature round my left arm, as in the common operation for bleeding, and opened the median vein by a pretty large orifice; taking particular care that the opening in the vein and the skin should be exactly opposite. He then attempted to introduce the silver tube, while I held a bowl to receive the blood, which flowed very freely. But being a little agitated, he was not able to get the tube into the orifice in the vein. As there was no time to be lost, I took the tube myself, and after several ineffectual trials, which gave considerable pain, I succeeded in introducing it. We immediately took off the ligature and began to inject the oil. The hemorrhage ceased as soon as the ligature was loosened: we estimated that about eight ounces of blood was lost, before that was done.

‘The injection of the oil was a slow operation. In consequence of the delay arising from the difficulty of introducing the tube, the temperature of the oil was reduced to about 70°. It was consequently less limpid, and less easily forced through the small tube into the vein. But the principal obstruction arose from the difficulty of carrying the oil forward into the circulation, after it had entered the vein. It was constantly disposed to regurgitate, and to pass out by the side of the tube into the cellular membrane, and upon the arm. To prevent this, we injected the oil very slowly,

* At the time that this experiment was performed, I did not know that Fabricius and Smith, a long time before, injected medicines into the human veins. But from what I have already said, it is obvious, that if I had been aware of this fact, the results of their trials would have done little to teach me what to expect from mine, or to prevent the feeling of apprehension for the consequences.

and as often as a little was collected in the vein, it was necessary to press it forward gently by the fingers upon the arm, until it disappeared. While we were injecting the first drachm of oil, I carefully watched my own feelings, and kept my hand upon the region of the heart, that I might be fully sensible of it, if there should be any unusual pulsation; and after this drachm was all thrown up, we waited two or three minutes to watch its effects before we injected any more. But not perceiving any unnatural sensation, we proceeded to inject the remainder of the half ounce. In doing this about a drachm was lost, by the regurgitation of the oil out of the vein; and we poured out another drachm and injected it, so as to make up the full quantity that I had originally intended to use.

‘It was half past eleven in the morning, when the vein was opened, and we were occupied twenty-five minutes in completing the injection. In order to be certain that the oil actually entered, and to retain as much of it as possible, I carried the tube some distance into the vein; the greatest part of the time, not less than three quarters of an inch of its length was within the vein. There was no hæmorrhage when the tube was withdrawn. There was a tumour, of nearly the size of half a walnut, below the vein on the inside of the arm, occasioned partly, if not wholly, by an effusion of the oil into the cellular membrane, and increased perhaps by an extravasation of blood with it. A compress of lint was placed upon the wound, and the arm was bandaged as in the common operation of venæsection.

‘I felt very well for a short time after the operation was finished. The first unusual sensation that I perceived, was a peculiar feeling, or taste, of oiliness in the mouth, a little after twelve o’clock. Very soon after, while I was washing the blood from my arm and hands, and was talking in very good spirits, I felt a slight nausea with eructations, and some commotion in the bowels, then a singular indescribable feeling seemed very suddenly to ascend to my head. At the same instant, I felt a slight stiffness of the muscles of the face and jaw, which cut short my speaking in the middle of a word, accompanied with a bewildered feeling in my head, and a slight faintness. I sat down, and in a few moments recovered myself a little.

‘This part of the experiment had been performed in a room, at a little distance from my lodgings. At a quarter past twelve, I walked home. My countenance was pale, and the oily taste continued in my mouth, with some dryness; but I felt a little better for the air. After sitting ten minutes, at twenty-five minutes past twelve, I counted my pulse and found it seventy-five in a minute.

‘*Thirty-five minutes after twelve.* The disturbance in the bowels continues and increases; slight pains moving about in them, with the feeling as if I had taken a cathartic: copious eructations of wind, and slight nausea. There is a strange sensation in my head; it is not a dizziness, though somewhat like it. My arm feels rather

stiff, which I attribute to the bandage ; it is also a little sore, but is not painful.

'Forty-five minutes after twelve. The bowels are still more in commotion, and the nausea is increased. My mouth still feels oily, but is not so dry as before. In five minutes more the disturbance in the bowels was increased so much that I thought there would have been a discharge from them, and made the attempt ; but without success. There is a slight pain in my head, and the strange feeling continues.

'Twenty minutes past one. The pain in the bowels is increased, with some tenderness on pressure ; have a very strong feeling as if a cathartic were about to operate ; but an attempt to procure a discharge from the bowels was unsuccessful, as before. The nausea continues.

'Two o'clock. My general feelings are better : the nausea is nearly gone. Notwithstanding my previous experience of the deceptive nature of the pain and uneasiness in the bowels, the feeling of inclination to stool was so strong and distinct, that I was induced to make another attempt, but with no more success than before. The same thing occurred again at forty minutes past two, and twice in the course of the evening. The sensation was, in every instance, strong and perfectly distinct ; at least it entirely deceived me, although I was on my guard, from the previous unsuccessful attempts. In the course of the afternoon and evening the flatulence and pain in the bowels diminished ; but the tenderness remained for several days.

'At twenty minutes past two, while I was making a little exertion, my arm began to bleed again, rather freely ; and we had some little difficulty in stopping it. I was alone at the time, and before I could call my assistant, and take off my coat and apply the dressings, about six ounces of blood were lost. We were obliged to make the compress and bandage quite tight over the vein ; and even then, there was a considerably ecchymosis into the cellular membrane.

'At three o'clock I dined upon a piece of pudding, which I ate with some little relish, but felt a slight nausea afterwards. About four o'clock, having a pretty urgent call to visit a patient, I went a little distance in a carriage, but took my assistant with me, to guard against accidents. I did not go out again until the 25th of February, and only twice for a short time till the second of March. Towards evening my arm became quite stiff, and considerably painful, and continued so through the night. It was swollen on the inside, from several inches below the elbow, almost to the axilla ; and there was considerable heat and tension, especially about the elbow, and a little above it. At eleven o'clock, my pulse was eighty-four. I passed rather a restless night, but got some sleep.

'February 21. In the morning there was a small discharge from the bowels, which was smaller and more costive than I am accustomed to have at that hour. My arm was more swelled, and more

painful than before ; pulse eighty. I had some pain in the head, and was all day much inclined to chilliness, though without true rigors. My arm was quite painful through the day. I had some fever and loss of appetite, and felt altogether too ill to make any use of my faculties, either of body or mind. This state continued several days ; and when I began to recover from it, I found my strength so much diminished, that it required two or three weeks to restore it to its former vigor. In order that I might interfere as little as possible with the effects of the injection, I wished to defer making any application to my arm as long as it could prudently be done ; but on the evening of the 21st it became so painful, that I applied pieces of linen dipped in the water of acetated litharge, diluted. This answered the purpose, and in some measure relieved the inflammation and pain ; and I passed a rather more quiet night.

'February 22. I was costive the whole day ; and at night took a mild cathartic pill. The pain in my arm was less severe, and I was in every respect better. From this time I gradually recovered my health, although very slowly. I made use of no more medicine, except to continue the lead-water. The swelling of my arm went off slowly, by the diminution of the inflammation, and the absorption of the effused blood ; so that on the 25th I was able for the first time to touch my forehead with the end of my fingers. For some time after I recovered my appetite for food, my powers of digestion seemed to be enfeebled, and I was frequently annoyed by indigestion.

'It is now four weeks since the experiment was begun by injecting the oil, and I have not yet quite recovered my usual strength and vigour. I am more easily fatigued, and am obliged to pay more careful attention to my diet than before. My left arm is weaker than it was previous to the operation, and is still sometimes subject to pains about the elbow. The tumour, which was made by the effusion of the oil and blood into the cellular membrane, is not yet wholly absorbed, although it has been constantly diminishing. It is now to the feeling about the size of one half of an English walnut. It does not however materially impede the motions of the arm.

'I have been thus particular in detailing the circumstances attending this disastrous experiment, in order that my readers may judge for themselves, how far the symptoms, which followed the operation upon the vein, were the necessary consequence of the injection, or whether any of them might have arisen from accidental circumstances, or from the manner in which the operation was performed. I am aware of the difficulty of observing correctly one's own feelings, and of the liability to mistake the impressions of the imagination for the effects of disease, or the operation of medicine. But I am not conscious that I have done so in this case.' pp. 111—120.

Experiment XI. The injection of calcined magnesia into the jugular of a rabbit in fine powder diffused in water was attempted, but a small portion of it had hardly entered the vein, when the animal was violently convulsed and died.

Experiment XII. Two drachms of a mixture of equal parts of alcohol and water were thrown into the jugular vein; considerable agitation was produced, which in a few moments subsided. In ten minutes, two drachms of undiluted alcohol were injected, and death was instantly produced. The blood in the right auricle was coagulated.

Experiment XIII. It was attempted to inject two drachms of the tartrate of potass and soda dissolved in half an ounce of water into the jugular vein; only about one third entered. Four hours and a half after the operation, the animal had passed several tolerably copious and natural discharges.

Experiment XIV. Two drachms of sulphate of magnesia, dissolved in half an ounce of water, were thrown into the jugular vein of the same rabbit, with the last experiment. Death was almost immediately produced.

‘From a review,’ says Dr. Hale at the conclusion of the detail of his experiments, ‘of the observations which have been presented, I think it may be regarded as established, that in general, the operation of emetics and cathartics on the stomach and bowels is the same when they are injected into a vein, as it is when they are received into the stomach, with the exception that their action is much more speedy and energetic. In my own case, although no cathartic effect was actually produced by the oil that was thrown into the vein, yet the injection was followed by symptoms which are the natural result of an insufficient dose of a mild cathartic. Even the subsequent costiveness might naturally enough be ascribed to this cause. It was my intention, when I began this experiment, to have provided a perfect standard of comparison for the action of the oil in the blood vessels, by taking the same quantity into the stomach, as soon as the effects of the first had wholly passed away. But those who know the reluctance which we unavoidably feel, to encounter any thing which has been the medium of inflicting a considerable degree of suffering, will not be surprised that I have little inclination to pursue the experiment. As it is, the effect on the bowels, although it was incomplete, was too decided and characteristic, to leave any room to doubt that it was produced by the oil. And this conclusion is entirely in accordance with the results of the numerous experiments of Orfila, Brodie, and Magendie, on the smaller animals.’ pp. 125, 126.

Notwithstanding this, however, our author concludes upon the whole against the safety and propriety of the practice as applied to the human subject. The seriousness of the operation

would be a sufficient objection to it in all except extraordinary cases; and in these, the great difficulty of ascertaining the precise quantities of the stronger articles, such as tartrate of antimony, that may be safely introduced, the disastrous effects which are produced if the dose be too large—and with regard to the weaker medicines, as ipecacuanha, rhubarb, &c. the difficulty of introducing them in a proper menstruum, in a sufficient quantity and with sufficient certainty, appear to be insuperable objections to the adoption of the practice in any way or in any cases. Let the circumstances be what they may under which the operation is performed, let the care taken be ever so great, let the operator be ever so skilful, we apprehend that in the human subject the injection of any medicinal substance, especially any one of sufficient power to make its introduction an object, could never be an operation free from hazard, and danger to life. The advantages to be derived from the practice, even were it perfectly safe, are not sufficient to counterbalance the pain and unpleasant sensations which must always be produced by the operation itself; and to all these objections we may add that which has been already alluded to, viz. the risk we undergo in applying the results drawn from experiments on brute animals to the human species in so delicate a particular, and the impossibility of ever arriving at such a certainty by these experiments, as would authorize us to adopt the practice in disease. It can be only by actual trial on human individuals, that we can assure ourselves of the safety and propriety of the practice; and those who peruse the work of Dr. Hale will feel little temptation to follow up a course of such experiments.

SELECTIONS.

THE following extracts are made from a Review of the second edition of Dr. Reid's *Essays on Hypochondriasis* in the December number of the *London Medical and Physical Journal* :

If hypochondriasis be, in reality, what many people pretend it to be—a disease of the mind,—we have no hesitation in saying, at once, that the best cure for it will be found in Dr. Reid's book. We have ourselves suffered cruelly from the blue devils, and know full well how to appreciate the man who can make us laugh under circumstances so distressing. But if, in addition to giving us such a blessing, the same individual can successfully combat our fears, and quiet our apprehensions: if he can turn our grins into smiles, and our hatred to mankind into a longing for society, then he has worked a miracle indeed, and the cure is certain. Unfortunately, however, the *metaphysics* of medicine in nervous or hypochondriacal affections, are not the only engine on which we can rely for complete success in their treatment. 'Vapours' may be only a figurative expression; and good folks in old days may have fancied that the disease, which that name was intended to designate, is equally figurative; but, in order to produce 'the vapours' of old, or the 'blue devils' of more modern times, there must be a derangement somewhere in the economy of our animal system,—let it be stomach, liver, spleen, or any other organ;—and a derangement of this nature is not to be cheated, as it were, into a 'righteousness of action' by any well-written essay, however humorous or replete with frolics. We must have the blue-pill and calomel, and purgatives, and tonic draughts, and diet, and alterative powders, and . . . we dare not proceed; but unquestionably we must have a something out of the druggist's shop, besides one or two leaves out of Dr. Reid's book. We shall then be sure of affording to our splenetic patients the best chance of recovery which human skill can afford. A late and very learned lord, at the conclusion of a consultation held on his wife by some eminent physicians, thus apostrophized her ladyship:—'So, so, my lady! your complaint is nothing but

the nerves, after all! You have got the nerves! A pretty complaint, truly! Now, let me tell your ladyship that I will not suffer any one of my family to be in the fashion; so I advise your ladyship to get rid of your nerves as soon as possible, or d— me if I don't get rid of you.' One of the physicians who had lingered somewhat behind the others, overhearing this unexpected harangue, and trembling for the fate of his patient, thrust his head between the half-closed foldings of the door, and exclaimed, 'Softly, my lord! *nerves* form a part of our body just as much as flesh and blood; and, when we say that they are affected, it follows that means must be taken to relieve them, exactly as your lordship has recourse to the bottle to prevent the blood from being impoverished, or to rich viands to preserve the rotundity of your stomach.'

Thus much we would say to Dr. Reid, had we not already analyzed his work, on the appearance of the first edition of it in 1816. We then gave a full account of its contents; and we can only limit ourselves, on the present occasion, to a few desultory observations on the additional matter contained in the second edition.

The first essay, *on the Influence of the Mind*, is copied verbatim from the first edition.

In the next essay, *on the Power of Volition*, besides some short remarks on madness, the effect of the enfeebled power of volition in an actual disease of the mind, and the importance of cheerfulness and hilarity, we find the following curious note:

'Of a late member of the English bar, whose strong original powers of mind had been obscured and enfeebled by the sensuality of his habits, it has been related, that, in the extremity of his last illness, when the shadows of death were fast coming over him, he, with a blasphemous audacity, swore, by God, that he would not die! In this state of morbid and impious rage, he struggled out of his bed, tottered down the stairs, and fell lifeless in the passage. From the exclamation of this unfortunate man, it would seem as if he fancied that he held the reins of life in his hands, and could arrest at will the rapidity of its descending career.

'It is remarkable that a similar story is related in Spence's *Anecdotes*, recently published, of Salvini, "an odd sort of man, subject to gross absences, and a very great sloven. His behaviour in his last hour was as odd as any of his behaviour in all his life-time before could have been." Just as he was departing, he cried out in a great passion, "*Je ne veux pas mourir, absolument.*"'

On the Fear of Death, the subject of the third essay, Dr. Reid has greatly enlarged his former observations. It is a curious circumstance that those persons should be, in general, found to dread most their departure from this world; to whom it has proved less productive of enjoyment: nor is it less singular that, the more serious and aggravated are our sufferings, generally speaking, the more strongly we cling to life. The apprehension of dying, however, which forms so prominent a symptom of hypochondriasis, is, in most cases, in the inverse ratio of the danger attending that disease. Dr. Reid quotes an example in illustration of this morbid sensibility, which may be assumed as a good specimen of most of the common cases of hypochondriasis.

'At the present moment I know a person of this class, whose conversation exhibits a general superiority of mind, attended however with a partial imbecility. His good sense deserts him only upon the subject of his health. His own opinion of his disease constitutes the worst part of it. His complaint appears to be seated in the stomach, and apprehension seems to be in great measure the creature of indigestion. There is no circumstance attending his ailments that indicates danger, or is inconsistent with a fair chance of longevity; and yet, for a considerable period, he has been decidedly of opinion, without being able to give any reason for the inflexible belief, that he shall never recover, and has been long, in his own imagination, trembling on the very edge of the grave.'

Our author, we think, has also happily described, in his peculiar style, by which we are reminded of the forensic eloquence in a sister island, the state of perverted intellectual vision in an hypochondriac.

'Instruments have been invented by which the most remote objects of vision may be drawn so near to the eye, as to seem almost in contact with it. Something analogous to this power exists in the mental mechanism of many an hypochondriac, by means of which he approximates to himself events at the greatest distance either in prospect or in retrospect, either before or behind him in the road of life. This power contracts the interval of time, as a telescope does that of space. The most remote calamity which he anticipates, he feels as if it were actually crushing him with its weight. From being in the habit of contemplating, with a morbid intensity, the close of his earthly career, he forestals almost every day of his life the agonies of dissolution. The spectre of human mortality is continually presenting itself before him in the full dimension of its horrors, so that it is no wonder if actual death be often occasioned by the

appalling apparition. It is similar with regard to the past : although the substance of some great calamity has long gone by, its lingering shadow still continues to darken his path. Years make no impression upon the immutability of his feelings. The ideas of recollection are, in general, less lively than those which are produced by an immediate operation upon the senses. But with a certain class of hypochondriacs it is quite otherwise. The pictures drawn upon the fancy exhibit a more distinct and vivid colouring than belongs to the realities of life.'

Dr. Reid has added to the present edition a whole essay on *Sleep*, preceding, as we trust it may always do with our readers and ourselves, the *Want of Sleep*. Against the latter malady, (for *pervigilium* must be considered as such,) the author has no remedy to offer except a clear conscience.

'Some years ago, I was called to one of the most notorious characters in London. He was an hypochondriac, the principal feature of whose complaint was an obstinate watchfulness. He had, in rotation, tried nearly all the doctors, great and small, in the metropolis ; but they seemed all to have been equally inefficient. No medicine could be applied to the seat of his disease : no contrivance of art could lull his conscience to repose. With all his dexterity in fraud, for which he was perhaps unrivalled, he was unable to cheat himself. In our public courts of justice he often, by the application of technical subtleties, braved the judge upon the bench ; but he trembled before the secret and more formidable tribunal that was established within his own breast. The laws of England may be evaded, but those of nature cannot. Junius says somewhere that, upon his honour, he never knew a rascal that was a happy man. No one, I believe, ever knew a rascal that was habitually a sound sleeper.'

We commended the essay on *Intemperance* on a former occasion ; and we see nothing to detract from the opinion we then expressed of its merits. The observations on the use of opium will be read with interest. To the examples of persons swallowing daily large quantities of that drug, which the author has brought forward, may be added another which is to be found in the two last Numbers of the *London Magazine*, where it appears, from the confessions of the individual himself, that a veteran opium-eater had brought himself to take at last sixteen ounces of laudanum in the course of twenty-four hours.

We pass over the next four essays on *Abstinence* ; *Morbid Affections of the Organs of Sense* ; *Physical Malady the occasion of Mental Disorder* ; and on the *Atmosphere of London* : in order to come to the more practical part of the work.

The first useful remark we meet with in the sixteenth essay, respecting *Dyspeptic and Hepatic Diseases*, is that which relates to over-indulgence in the pleasures of the table, and to the diseased condition of the respiratory organs, considered by the author to be the result of gluttony.

'In the more self-indulgent classes of society, which, although not in general so denominated, ought, in a rational and moral view, to be regarded as the lower orders, it may be remarked, that coughs originate not so frequently from a diseased condition of the lungs, as from a depraved state of the principal and more immediate organ of digestion. Hence arise those chronic coughs which are almost universal amongst the obstinately intemperate in eating as well as in drinking. Such coughs become particularly troublesome early in the morning, when the tone of the stomach has not been as yet duly excited by the natural and artificial stimulants of the day. The violent paroxysms of coughing often produce a tendency to vomiting. In such cases emetics give relief, which are on that account, by these spendthrifts of constitution, so frequently resorted to, as in some instances to become a part of their habitual regimen. An emetic relieves a person for a time from the filth and burthen of a debauch; but this medicinal mode of purification is scarcely less injurious than intemperance itself. I knew a man whose conduct in every other respect was highly exemplary, who was in the habit of clearing his stomach in this manner, on returning from a dinner-party. The violent action of an emetic under these circumstances was the immediate occasion of his death.'

Warm diluents, Dr. Reid asserts, form a less injurious mode of relief from the effects of indigestion. The celebrated Burke was as much in the habit of refreshing *himself*, (the author has it 'herself:' does he mean to insinuate that B. was an old woman?) by draughts of hot water, as the no less celebrated Pitt by potations of wine. But even the long application of hot liquids may be supposed to affect the coats of the stomach in the same manner 'as the fingers of a washer-woman are *soddened* by a habit of immersion in tepid water.'

On the hacknied subject of tea-drinking, we must quote the author's own expressions. His opinion on this subject is an addition to the first edition of his work.

'In spite of these observations, I am still inclined to think that there are many cases in which a taste for tea ought to be encouraged rather than condemned. This taste has a tendency to preclude the more prevalent, and after all more mischievous, propensity for vinous stimulation. Many persons, distinguished for their longevity, have been known to indulge habitually in the

use of tea; which we may account for, not from its being in itself a wholesome beverage, but from a fondness for it generally implying a distaste for potations of a much more decidedly pernicious nature. 'Tea will produce, in some very irritable frames, an artificial state resembling intoxication; but it is a cloudless inebriety. Tea removes the film from an eye that has been obscured by a gross and stupifying intemperance, and tends to improve a susceptibility to the true relish of social and intellectual enjoyment.'

The connexion between hypochondriasis and some *real* derangement of the constitution, to which we alluded in our introductory remarks to the present article, is acknowledged by Dr. Reid himself in the present edition.

'Between the diseases which form the particular subject of this essay and hypochondriasis, the connexion is intimate and almost inseparable. The assimilation of the food has an important effect upon the regulation of the mind. A sourness of the temper may often be traced to acidities in the stomach. He who does not digest well, is not likely either to act or to feel aright. A morbid secretion of the liver will give a tinge to a man's character, as well as to his complexion. He, whose disposition to goodness can resist the influence of dyspepsia, and whose career of philanthropy is not liable to be checked by an obstruction in the hepatic organs, may boast of a much deeper and firmer virtue than falls to the ordinary lot of human nature. A disorder in the physical part of our frame produces not so frequently a total obscuration as a twilight of the intellect, an intermediate and equivocal state between entire sanity and decided derangement: the state in which a large proportion of hypochondriacal men and hysterical women may be considered as nosologically placed.'

On the subject of *Bleeding*, which is treated of in the twenty-second essay, we are completely at issue with our author. The peculiar doctrines he advanced in the first edition, respecting the impropriety of venesection in fevers, are here repeated in the same strain of language, and without any token of better maturity, such as we had reason to expect from a practitioner who must have since had additional opportunities for observation. Dr. Reid is a decided enemy to venesection, except on a very few occasions; and the alleged reasons for his hostility to the lancet are unsatisfactory.

We are better pleased with his remarks on *Pharmacy*, contained in the twenty-third essay. We would wish, in particular, to inculcate on the mind of every practitioner, the following very judicious observations.

'In cases of convalescence from acute disease, to prolong a medicinal course, for the sake merely of still further strengthening, after the natural desire has returned for wholesome and substantial food, is a practice that appears to me contrary to common sense, although it be not altogether so to ordinary routine. Under such circumstances, "to throw in the bark," is, to those who are asking for bread, giving a stone. There is no such thing as a permanently strengthening medicine. It is only what nourishes that gives any durable vigour or support. Medicine, as it is usually administered, interferes with appetite before a meal, and with digestion after it. Drugs, although not in general intoxicating, are at best unnatural stimuli; and, of course, are seldom to be resorted to, except in that state of the constitution in which it cannot be duly excited by the ordinary incentives to vital and healthy action.'

We have no doubt that, in the practice of physic, we should have been more successful if there had not been a single article of the class of tonics in the *materia medica*.

The essay on *Pharmacy* is greatly enlarged in this edition, and contains several very apt remarks, no doubt the fruit of personal observation. In what he has stated of the mismanagement of infants, we cordially go along with him; and, so far from following the example of those who have accused our author of hyperbole and exaggeration in what follows, we wish it may have its due effect in improving a branch of medical practice, of which it is not too much to say, that it has hitherto been unaccountably neglected.

'In no department of our profession does the practice of it appear so cruelly absurd as in the mismanagement of infants. I once ventured to observe, that, "of the cases of mortality in the earlier months of our existence, no small proportion consists of those who have sunk under the oppression of pharmaceutical filth. More infantile subjects in this metropolis are perhaps diurnally destroyed by the mortar and pestle, than, in the ancient Bethlehem, fell victims in one day to the Herodian massacre." I plead guilty to the charge of rashness and hyperbole, which were brought against this remark when first published, but I wish that the years of experience and reflection, which have since intervened, had convinced me that the remark was altogether destitute of foundation. When we contemplate a church-yard, the earth of which is composed in great measure of the bodies of infants, it is natural for us to fancy, but surely it is not reasonable for us to believe, that those beings were born for no other purpose than to die; or that it is within the design of nature that the pangs of production on the part of the mother should, on

that of her offspring, be almost immediately succeeded by the struggle of dissolution. Fault must exist somewhere: it cannot be in the providence of God; it must therefore attach to the improvidence and indiscretion of man. Consequences as fatal originate from ignorance as from crime. Infanticide, when perpetrated under the impulse of maternal desperation, or in the agony of anticipated disgrace, is a subject of astonishment and horror; but, if a helpless victim be *drugged* to death, or poisoned by the forced ingurgitation of nauseous and essentially noxious potions, we lament the result merely, without thinking about the means which inevitably led to its occurrence. Conscience feels little concern in cases of medicinal murder. The too ordinary habit of jesting upon these subjects in convivial or familiar conversation, has an unhappy tendency to harden the heart, and inclines us to regard, with an inhuman and indecorous levity, those dark and horrible catastrophes which too frequently arise from professional ignorance or mistake.

On the remaining five essays we shall offer no remark. They are generally written in a more sober style, and contain many useful hints and practical observations. Their subjects are, *Ablution; Bodily Exercise; Occupation; Real Remedies, and a Remedy for those of the Imagination*. We highly approve of the author's opinion respecting the utility of warm bathing.

'The warm bath has a remarkable influence in composing the mind when in that state of violent irritation, which often leads to the use of laudanum or some equally deleterious opiate. This remedy has been for many years considered, at the Retreat at York, as of greater efficacy in certain cases of insanity than all the other medicinal means which have been employed. There is no agent which, equally with the tepid bath, is calculated to promote the general tranquillity of the constitution. It will often induce sleep when the more direct and accustomed opiates fail, and, with all its beneficial tendency, it is followed by none of those evil effects that are apt to arise from the drugs more generally employed to allay uneasiness, to restore composure, and to conquer the obstinacy of an involuntary and unnatural vigilance. The notion that the warm bath is relaxing, may in a great measure be derived from the effect which it is observed to produce upon inanimate matter; as if the nerves and muscles of the human frame were like the strings of a musical instrument. The warm bath is, in many cases, a congenial and salutary cordial; it animates torpor and elevates depression: on which account, when intemperately employed, or in cases where there is already a too vigorous excitement, there is a chance of its prov-

ing deleterious. In furious mania, for instance, it has been known to produce mischievous effects.'

Our own experience coincides with that of the author in respect to the beneficial effects of the warm bath; by which we mean water at a temperature no less than 97 degrees, and often 99 and 100.

Dr. Reid has added to the present edition of his work an Appendix, containing a few interesting passages from notes and additions made to a German translation of the first edition, by Dr. Haindorf at Essen. It cannot be expected that we should enter on the consideration of these fragments; but we will not deny ourselves the pleasure of quoting one or two passages, from which it will appear evident that the translator had caught the true spirit of his author, and, in his own original remarks, endeavoured to think, reason, and write like him.

On the subject of insulted pride as the source of mental disease, we have the following anecdote:

'It happened, at W——, that a gentleman, whose pride was well known, was one evening refused admittance to the nobility's box. He was highly incensed; and the next morning it was found necessary to put him into an asylum for lunatics. No art could there succeed in restoring the disturbed equilibrium of his mental powers; and, after a residence of ten years, he died there in a state of misery and stupefaction.'

Nor were we less amused at the ready manner in which the German Professor cured a young lady of a disorder, the removal of which would, but for his interference, have been attributed to the miraculous power of animal magnetism.

'In the town of W——, I was one evening called to visit a young lady, who was supposed to be dangerously ill with convulsions. Her relations told me that, other remedies having failed, she had for some time past been magnetised by her medical attendant. I found her lying on the sofa in a kind of ecstasy, and was informed that this state recurred several times in the day, but not with so much violence as then. She was accustomed, during the fit, to speak of higher things, and appeared quite unconscious of the world in which she lived. All belonging to her were assembled about her, to contemplate the wonder, as if she were a saint. As the lady had, in the paroxysms of a disease which was supposed to deprive her of her senses, placed herself in the most elegant attitude on the sofa, had arranged her fine light hair very nicely, and had bestowed great attention on the choice of her attire altogether,—these circumstances, added to the state of her pulse, inspired me with some doubts respecting her unconsciousness and supernatural visions. I therefore en-

deavoured to comfort those about her, by saying, "Be under no uneasiness: this is an ordinary case. Magnetism is not necessary to cure it. I will only cut off the patient's hair, and apply a cold cataplasm." The instant I drew out my case of instruments, the lady roused herself from her ecstasy, and has never had a similar attack. She took some strengthening medicine, and is now a stout and healthy young woman."

MAPLESON on *Cupping*.

[From the London Medical and Physical Journal.]

Will it be believed, after all that has been said of this operation, that the correct performance of it is at present confined within narrow limits; and, according to our author, can hardly be said to extend beyond the boundaries of the metropolis of these realms. We know not how matters are ordained in regard to this operation in the medical department of the army; but we can assure Mr. Mapleson and the public, that the medical officers of the royal navy, who have incontestibly given the *clan* to military surgery in this country, (for their toils and their triumphs long preceded those of the land-service,) have, to our knowledge, been in the habit of performing, for many years, the operation of cupping on their own patients; for which purpose they supply themselves with the necessary apparatus, agreeably to the rules of the service.

In Scotland and Ireland, the art of cupping is not practised as a distinct profession; and our author has been informed that it is rarely, if at all, recommended even in Edinburgh, that *supposed* centre of medical information.

In Paris, the operation is hardly known. The cupping apparatus is not to be met with. We have seen Baron Larrey scarify an inflamed surface, by drawing very nimbly over it, in various directions, a keen-edged scalpel, held lightly between the fore-finger and thumb, and apply over the part glasses which had been previously exhausted by burning a small quantity of tow within them. Of late years, however, a Dr. Sallandriere invented a small apparatus, consisting of a moveable axis, armed at one extremity with one or more lancets, within an oblong glass, to one side of which an aspiring pump is appended; which apparatus is intended to supply the application of leeches.

Mr. Mapleson prefaces his instructions for the performance of cupping with a *rationale* on which the operation depends, and which he explains by the familiar examples of atmospherical

pressure in the pump and barometer. If a cup, the air of which has been exhausted by the momentary introduction of the flame of a spirit-lamp, be applied to a given part of the surface of the body, the skin will rise up in it, by the pressure of the air upon the general surface of the body. Under this circumstance, the cutaneous and superficial blood-vessels become distended; a larger quantity of blood rushes into them; and, when the cup is re-applied after scarification, a much larger quantity of blood is discharged than could have been obtained without the vacuum.

We shall now quote, verbatim, the instructions for performing the operation with adroitness and success, as we find them in Mr. Mapleson's little book; trusting that the wide circulation of our Journal will materially assist in promoting the great object which the author professes to have had in view when he published his excellent treatise.

1. 'The first step in the operation of cupping is to produce a partial vacuum over one or more portions of the surface of the skin.

2. 'The mode now, I believe, universally adopted by regular cuppers, is the momentary introduction of the flame of a spirit-lamp, with a thick wick: the larger the glass, (if properly exhausted,) the less pain does the patient suffer, and the more freely does the blood flow.

3. 'When about to perform the operation, let there be provided a hand-basin with warm water, a piece of fine sponge, and a lighted candle. Place as many glasses in the basin as may be judged requisite to obtain the quantity of blood intended to be taken away. If sixteen or twenty ounces are ordered, four glasses, of a size adapted to the surface, will in most cases be required. Each glass is then separately to be held, for an *instant*, over the flame of the spirit-lamp, and immediately placed upon the skin of the patient. Upon the quickness with which this is effected, depends the whole neatness and efficacy of the operation.—To obviate their want of dexterity, many operators in the country throw a little bit of tow or paper, dipped in spirits and inflamed, into the cupping-glass, the moment before it is applied; a very clumsy expedient, often adding unnecessarily to the sufferings of the patient by cauterizing the skin; doing harm, also, by rarefying the air more than necessary within the glass, in consequence of which the edges of the cup compress the cutaneous vessels so much as to obstruct the influx of the blood.

4. 'If the glasses have been duly exhausted, the skin will be seen gradually to swell up within the cup, owing to the

pressure of the air upon the parts in the vicinity, as well as to the expansion of the fluids contained in the cellular membrane. The skin becomes also of a dark purple colour, owing to the influx of blood into the smaller vessels. If dry cupping be only intended, the glasses may be allowed to remain on the skin for a few moments, and replaced five or six times, varying their position a little, to prevent bruising the skin. If the intention be to scarify and take away blood, the glass ought not to remain more than a minute; when it is to be removed by gently introducing the nail of the fore-finger under the edge, and the *sacrificator* *instantly* applied, and the lancets discharged upon the skin, before the tumor has had time to subside. Upon the rapidity or slowness with which the application of the *sacrificator* succeeds the removal of the glass, depends all the sufferings of the patient. If the skin has completely subsided before the stroke of the lancets, much unnecessary pain is inflicted.

5. 'The glasses are thus to be removed and re-applied successively. They should be a second time removed, if necessary, as soon as the blood is perceived to coagulate within them, or when they are so full as to be in danger of dropping off. For the sake of neatness, care should be taken to insert the nail under the upper part of the glass, and open them downwards; gently wiping the wounds at the same time with a warm moist sponge.

6. 'The glasses, previous to every application, should be rinsed in the warm water, but not dried. To obviate the unpleasant sensation produced by the coldness of the metal, it is advisable to pass the instrument for a moment over the flame of the lamp before using.

7. 'When the operation is finished, it is common to apply a piece of fine linen rag to the wounds; but, if the patient does not object to a little smarting, either *arquebusade* water or spirits of wine is a preferable application, as it immediately stops the oozing of the blood, promotes the healing of the wounds, and prevents the subsequent itching, which I have heard some patients complain of, as the most unpleasant part of the operation.

8. 'It is a common error to make the incisions too deep, especially if the object be to take away much blood; being convinced that nothing is gained by going deeper than the cutis, or true skin, while an unnecessary increase of pain is caused to the patient.

9. 'It is certainly preferable to make the incisions in the direction of the fibres of the subjacent muscles; but it is not

of much importance, as, in my opinion, the incisions ought never to penetrate so deep as the muscular flesh.

10. 'No step in the operation of cupping demands more the attention of the operator than the state of his scarificators. If not exquisitely keen, they occasion unnecessary pain; if foul or rusty, they may communicate disease, or give rise to festering sores. The lancets or cutters should be kept as sharp and in as fine order as possible, so as to make a clean incision, without bruising or giving fruitless pain.

11. 'The intention of the operation is, I believe, frequently defeated, from want of attention to these apparently trivial circumstances.'

Case of Poisoning by Arsenic, successfully treated. By Jos. HUME, Esq.

THE following instance of speedy recovery from the effects of arsenic will, I trust, fully exemplify the favourable opinion I have already given of the probable advantages to be derived from the use of *carbonate of magnesia*, and my predilection for this earth as an antidote. This opinion, together with many valuable remarks by the author, connected with the detection of arsenic, will be found in Mr. Marshall's 'Remarks on Arsenic,' published about four years ago.

It was with reluctance I undertook the charge of this patient: I had, indeed, refused the application, recommending that it should be made to a professional gentleman whom I named; for, although originally destined, and in a great degree prepared, for the practice of medicine and surgery, I have long confined my attention principally to practical and scientific chemistry and pharmacy. After this apology, I now proceed with a very brief detail of the case; my avocations at present preventing my stating all that might be said upon the subject.

On the 18th of July last, M. N., a young married woman, about twenty years of age, in consequence of some violent altercation with her husband, a fruiterer, and she being then in a state of inebriety, immediately set about the means of self-destruction, by purchasing some arsenic at a neighbouring druggist's shop, pretending that it was for cleaning brass.

By subsequent information, I found that the arsenic was taken after supper, and at a late hour, being near midnight; that she had eaten rather heartily of cold fried sheep's liver; had taken neither bread nor any liquid with that meal; and that she swallowed the arsenic very soon after, having mixed it in a wine-

glass with a little water, and 'stirring it well up with a tea-spoon,' as she informed me.

About eight o'clock on the following morning, the mother of this poor woman came to my house, and, in the most urgent and impressive manner, implored me to accompany her instantly to see her dying daughter, who had taken poison; at the same time presenting me with the paper containing the remainder of the arsenic. This parcel I, of course, retained in my possession, for the purpose of examination and analysis, in case an authorized inquiry by a jury should be necessary. As the distance was short, and as the wretched mother seemed most unwilling to lose time, as she expressed it, by sending for other assistance, I immediately attended her to her daughter's lodging; but with no expectation of success, as, without any nice examination of the powder, I soon discovered its nature, and the mother had informed me of the quantity which her daughter had taken.

On entering the room, I found the miserable victim suffering under the most excruciating agonies, attended with constant efforts to vomit or retchings, although it appeared that she had, in the early part of the morning, vomited once or twice rather copiously. The pulse was extremely rapid, and rather unequal; it was, however, above 120. In the commencement of such accidents, the pulse is, probably, not to be relied on as an indication; for, particularly on this occasion, the patient suffered much from mental as well as bodily agitation; seemed fully sensible of her danger, and, I am confident, repented most sincerely of the rashness of her conduct. She complained of the well-known signs attending an over-dose of arsenic; such as acute and fixed pain in and about the gastric region; a sensation of burning heat in the throat and fauces; and, in short, to use a convenient expression, she was labouring under all the symptoms peculiar to the arsenical virus.

I quickly returned home, requesting the mother to accompany me for the sake of dispatch, and prescribed the following mixture:

R. Magnesiæ carbonatis, ℥j.

Aquæ distillatæ, ℥xv.

Vini opii, 3jss.

Spiritus lavand. comp. 3iij.

Sacchari albi, ʒss. M.

Capiat ægra cochlearia duo magna frequenter, phialâ assiduè agitâ.

Besides a written label on the bottle, I instructed the mother to give a dose of the mixture every ten minutes, while the symptoms continued violent; but, should there be any material re-

mission, then to exhibit the medicine every quarter of an hour or twenty minutes, according to circumstances.

So slight were my expectations of saving this unfortunate woman, that I did not think it requisite to visit her again. I had, indeed, informed the mother, as well as the unhappy husband, who blamed himself as having been the cause of his wife's situation, that I considered it a hopeless case. My attention now was rather occupied in preparing such evidence as might be satisfactory to a coroner's jury, than forming any plan for the treatment of the patient; but another visit from the mother checked this career. She informed me that her daughter 'had *again* been taken very ill,' and begged I would see her immediately. This message convinced me there had been a remission of the symptoms, and that the same remedy ought to be continued; I therefore, not having it in my power at that time to visit the patient, desired that the daughter should persevere with the same medicine; observing to her, that I could prescribe nothing more efficacious. This was assented to, and the same mixture was repeated, omitting half a drachm of the *vinum opii*, the patient having been disposed to drowsiness by the first proportion.

I am unwilling to delay what I consider to be the chief object of my letter,—the mode of applying *magnesia*; but, having other circumstances to add, which may be important and, I hope, acceptable to the readers of your valuable Journal, and my time being at present too much engaged in professional pursuits to permit me to proceed any farther on this subject,—I shall only say, that the patient herself waited on me, I believe, on the fifth day after, and that, in less than ten days, she was perfectly recovered. It is proper to mention, that *oleum ricini* and other (what I shall call) *occasional* remedies, were also employed in this case.—*Lond. Med. and Phys. Journal*.

Long-Acre; Oct. 11th, 1821.

Rapport du Comité Central de Vaccine, sur les Vaccinations Pratiques en France pendant les années 1818 et 1819;—or, a Report from the Central Committee of the Society for propagating Vaccination, on the Number of Children vaccinated in France during the years 1818 and 1819. Paris, 1821. pp. 132. (For private circulation.)

'THEY certainly manage these matters better in France.'—The means adopted by our transmarine neighbours for the

propagation of vaccination in their own country, are admirably calculated to attain that desirable object. Foremost amongst those measures we must place those annual festivals and public meetings of the Vaccine Society, at which every class of persons is admitted; and where, after a plain and gratifying statement of the success of vaccination during the preceding year, medals and pecuniary rewards are distributed, with suitable eulogiums, to those individuals, whether of the medical profession or otherwise, who have most distinguished themselves for the zeal with which they promoted vaccination. One of these solemn festivities, so honourable to the author of the great discovery which it is intended to commemorate, lately took place in Paris, agreeably to custom; and it is now our pleasing duty to record the occurrence, at the same time that we shall endeavour to give our readers an account of its result.

On Saturday, the 5th of May, 1821, Baron CAPELLE, counsellor of state, charged with the administration of public hospitals and other medical charities, held, and presided at, a general meeting of the Central Vaccine Society, in the great library of the Faculty of Medicine. Several professors of that faculty, many physicians and surgeons, clergymen of the catholic and reformed religions, and a vast concourse of pupils and people, attended the meeting. Baron Capelle opened the business of the day, by calling the attention of the meeting to the increasing benefits accruing to society from the discovery of vaccination; a discovery, than which no other called more loudly for the gratitude of mankind. The Baron's description of the obligation we owe to JENNER is both neat and appropriate:

'Of all the benefits made sacred by public gratitude, few merit so much that homage, as that of which you are the enlightened promoters: in it, it is true, that every thing is beneficial; the victory is purchased by no sacrifice, the discovery by no evil; in nothing does it resemble those hazardous conceptions in which the wisdom of experience is so frequently sacrificed to the vanity of innovation. Vaccination, during twenty-five years of success, has refuted the prejudices which opposed it; and the human species secured by it against one of the most terrible scourges which threaten it, finds in its own preservation a testimony which henceforth disarms criticism and makes eulogy superfluous.'

The Baron concluded by observing, that much yet remained to be done, and that it was important 'not to stop while any thing farther could be effected.'

Professor CHAUSSIER, president of the central committee of the Vaccine Society, whose efforts in encouraging vaccination have been as successful as they have been constant, next addressed the meeting; and observed, that, from the multiplied experiments and numerous observations made during more than twenty years, it had been ascertained, in the most positive manner, that vaccination was most efficacious in preventing the small-pox, and might possibly become the means of completely eradicating that disease; that, in France, no effort was wanting to promote so desirable an end; and that the central committee, with a view to that object, kept up a constant correspondence in every, even the most remote, part of the kingdom, and distributed vaccine matter with a praise-worthy profusion. It was but lately that a large quantity of that matter was forwarded to China, as a present from the French king to the sovereign of that vast empire, in which the small-pox had, last year, committed great ravages. The government has determined that pecuniary rewards shall be annually distributed to the most zealous vaccinators; and, to second the philanthropic views of the administration, the prefects of the departments have established special committees in every town, charged to propagate vaccination, through the assistance of expert physicians, surgeons, and pastors. Mr. Chaussier acknowledged at the same time, that, notwithstanding the example of sovereigns, who submitted their own infant children to the operation, and the expressed conviction of men conspicuous for their talents and philanthropy, vaccination had not yet reached that degree of universality which the welfare of mankind still imperiously demands.

The Professor then went on to investigate the different causes which have retarded the progress of vaccination; and successfully combatted all the objections raised against it. In doing this, the Professor avails himself of every fact and argument urged by the National Vaccine Establishment, the College of Surgeons, and Sir Gilbert Blane, in England, for the same laudable purpose, in their respective documents; copies of which had been transmitted to the Professor.

We are, however, of opinion, like many others, that coercive means, more or less severe, according to the spirit of the laws, ought to be employed by every government, in order to ensure the universal adoption of a measure, the prejudices against which it would be a waste of time to endeavour to combat by means of plain reasoning only and fair council.

‘Reasoning (observes Professor Chaussier) makes no impression on those who are unaccustomed to reflect, observe, and follow

a thing to its consequences : both precepts, and the means of persuasion, are useless against strong prejudice and obstinacy.'

This conviction has induced several of the prefects of the departments to issue orders that no child should be admitted to partake of the benefits of any of the public charities or establishments, that shall not appear to have been vaccinated. In imitation of this praise-worthy conduct on the part of the French magistrates, the founders of the Royal Metropolitan Infirmary for Children, in London, have resolved that the medical officers of that charity from those children whose mothers shall object to vaccination, without any very solid reason. Had some such resolution as this been adopted by the officers of every other medical or philanthropic institution in England, the prejudices of the major part of the lower classes of society against the salutary measure under our consideration, would, ere now, have been greatly diminished, if not wholly removed. The great legislator of the Jews, knowing how conducive to the health of his people it was to enforce cleanliness, among other measures of hygiene, made it a precept that every child should, at its birth, be subjected to a certain operation, the purport of which was of very trifling importance compared to that for which vaccination might be made obligatory on every parent by a law of the land.

Professor Chaussier having concluded his address, the report of the central committee of vaccination, on the number of children vaccinated during the years 1818 and 1819, was read by Mr. Husson, the perpetual secretary of the society. This document presents an *ensemble* of the plans uniformly adopted in most parts of France for the propagation of vaccine, which deserves our best consideration. These plans appear so admirably calculated to attain the desired end, that we are surprised at their not having been more generally followed even in France. In those departments where the prefect has deemed it his duty to extend his authority to the practice of vaccination, the best effects have ensued, and the numerical results from the occurrence of natural small-pox, compared to those derived from the inoculation of cow-pox, are by far more favourable to the latter. Admonitory as well as compulsory instructions have been published ; persons employed in public capacities have been readily persuaded to have their offspring vaccinated ; their servants, being soon convinced of the utility of that practice, hastened, with little hesitation, to imitate their masters ; while the shopkeeper, the petty tradesman, the independent manufacturer, and the husbandman, tacitly availed themselves of a salu-

tary measure, which they saw adopted, with so much apparent earnestness and benefit, by their superiors.

In every small town, borough, or village, vaccine matter has been deposited, from the best sources, in the hands of the clergyman, the medical practitioner, or, in the absence of them, the principal housekeeper. Ambulating vaccinators, on whose skill and integrity the prefect could rely, have been appointed to journey from one place to another, and either to vaccinate themselves, or teach the individuals above mentioned to practise with safety and dexterity that operation. Forms of registers have been drawn up, and copies of them furnished to all those who are to perform vaccination; and, lastly, sub-committees have been appointed by the prefect in the principal towns of his district, charged to collect all the information from minor places, with a view to draw up an annual report, which is forwarded to the central committee at Paris. To encourage the tardy, and to reward the zealous,—premiums, some pecuniary, others honorary, have been established, and apparently with the best effect.

There is a class of persons in France, to whom the operation of vaccinating children can with propriety be confided,—namely, that of midwives; for in that country, where midwifery is held in proper consideration, and its importance fully felt, no woman is allowed to practise as a midwife who has not had a regular education at the great establishment of the *Maternité*, at Paris; where, amongst other useful qualifications, the female pupils are instructed in performing the operation of vaccination. This latter circumstance affords the French a greater facility than we possess in this country for propagating the cow-pox, as the only means of extirpating the dreadful contagion against which it is known to act specifically. There is now scarcely a village of any consequence in France in which there is not a resident midwife, qualified in the manner we have just described, and who has, moreover, been brought up to love and cherish the salutary practice to which our efforts, in the present article, have been directed.

We have no room to enter further into the details of administration relative to the propagation of vaccination in France, contained in the first part of the Report; and proceed, therefore, to the second part, or division, of this important document. This, properly speaking, is more interesting even than the former to medical men, as it professes to give an account of the principal medical facts connected with vaccination, with which the central committee have become acquainted through their numerous correspondents.

The first of these facts relate to the irregularity observed in the progress of the pock after inoculation. Cases have been known to occur in which the pustule has furnished, after the fourth day, well-formed lymph, from which other children have been vaccinated, when the pustule was found to have lost that degree of precocity. Instances where the first appearance of the insertion having succeeded, manifested itself on the seventh, eighth, ninth, and as late as the thirteenth day, have occurred on various well-authenticated occasions.

It is now placed beyond doubt that the vaccine matter will occasionally give rise to the spontaneous eruption of many more pustules in different parts of the body, the matter of which is perfectly good for inoculation. Of this fact we have ourselves been witnesses in more than one instance; and it goes far, in our opinion, to show that there is a general action produced by the vaccine virus on the constitution, besides the local effect which arises from it.

Thirteen medical men have seen examples of vaccination proving the means of curing other eruptive diseases, the *crusta lactea* in particular; and it stands recorded in the present Report, upon unimpeachable authority, that the inoculated cow-pox has effectually cured scrofulous swellings, ophthalmia, chin-cough; and has appeared to exert a beneficial influence in cases of epilepsy, hemiplegia, and sciatica.

The Report is full of the experiments that have been repeatedly made with a view to ascertain the efficacy of vaccination in subjects who were subsequently inoculated with the small-pox, or exposed to its contagion. The result has been uniformly favourable to the doctrine of the immortal Jenner. Four instances are detailed of mothers, attacked with the small-pox, safely suckling their infants that had been vaccinated.

All the above facts, many of which have been observed before, were confirmed during the prevalence of varioloid epidemics, which have of late years partially ravaged some of the provincial districts of France. Mr. LÉJEUNE, for instance, relates that, in the village of Claye, (department of l'Aisne,) of thirteen children, one only, that had been vaccinated, resisted the small-pox by which the other twelve were attacked, and of which four of the twelve died.

The influence which the cow-pox seems to exert over the small pox has been strongly illustrated in those individuals who, having been vaccinated after exposure to the variolous contagion, have experienced a disease extremely mild in all its characters.

The Report lays a great stress on the comparative rarity of the small-pox in places where vaccination has been much and generally practised.

It then goes on to notice the pretended cases of failure, and observes that 'When we analyse all these facts, we always arrive at one of the following results. Vaccination, although performed, has either not been followed by any development, or the operation has produced a spurious and not preservative vaccine disease; or as has been before seen, the small-pox has broken out in the course of the vaccine; or, finally, an eruption which has some points of resemblance with the contagious small-pox, and which hence has been called the *varioloïde*, has been taken for the small-pox itself.'

Some few of the cases themselves are next given, and carefully analyzed; and we hesitate not in saying, that the conclusions of the reporter seem correct.

We cannot conclude our account of this very instructive pamphlet without quoting, in the original language, the parallel drawn up, with great care and truth, between the real small pox and the chicken-pox; respecting whose identity or dissimilarity so much has been said and written in this country.

'We do not speak of the symptoms by which these two diseases are announced: these symptoms, generally common to acute eruptive diseases, differ only in their degrees of intensity; and this difference is not sufficiently, constantly uniform, as by itself alone to be characteristic; but confining ourselves to the fever which occurs in these two affections, we observe, that in the true small-pox, it lasts three or four days: that, if it diminishes or ceases on the appearance of the pustules, it will reappear with the suppuration, between the ninth and thirteenth day: whereas, in the spurious pox, it continues but a day or two, and is sometimes hardly observable.

'In the true, the eruption does not begin till after three days of the fever, and shows itself first on the face, neck and chest, and successively on other parts of the body; the pustules increase insensibly in size, and do not acquire their full size till the end of the fourth or fifth day.

'In the false, the eruption appears suddenly at the end of the first day, sometimes the second, and rarely the third; it appears almost simultaneously on different parts of the body, and without that regular order, which the pustules of the small-pox observe at their coming out.

'In the true, the pustules once formed, present a slight depression in the centre of their summit, first red, they afterwards grow white, and are surrounded with an areola of a rose colour.

‘ In the false, they are spherical at their summit.

‘ In the true, the pustules are filled with a serous fluid which is transformed into a purulent matter, exhaling a peculiar vapour somewhat nauseous.

‘ In the false, they contain even at the height of their maturity, only a white and transparent lymph.

‘ In the small-pox, the drying does not begin till the eleventh day.

‘ In the chicken pox, the pustules effuse the fluid they contain, sometimes two or three days after their coming out ; they fade, dry, and fall off in scales at the end of the sixth, eighth, or tenth day.

‘ In the small-pox, the eruption, the suppuration, and dessication, form three successive periods, very distinct from each other in duration ; the first of three days, the two others of five days each or thereabout.

‘ In the chicken-pox, these three periods are apparently confounded, either because their period does not exceed six or eight days, or because they appear at once ; and it happens from this intermixture, that many of the pustules are already dry on different parts of the body, while on others they are in full maturity, or just rising.

‘ In the small-pox, there appears before exsiccation a general swelling of the skin, particularly observable on the face and hands, and sometimes so decided in the eyelids, as to deprive the patient of sight.

‘ In the chicken-pox, the drying process is not preceded by any swelling, or at most it is scarcely observable.

‘ One of the most striking characters of small-pox, is the deep redness which remains some time on the persons of those who have suffered from it, while the marks left on the skin by chicken-pox are scarcely red, or if so, this redness soon disappears.

‘ The scars left by small-pox are more or less deep ; their surface is unequal.

‘ In the chicken-pox, they offer no inequalities, and are more or less smooth or united ; differences which correspond to those which the inflammatory stage presents in the one and the other eruption.

‘ Finally, the small-pox, even when distinct, and of moderate violence, is a disease which continues fifteen or twenty days, and of which the issue is sometimes fatal.

‘ The chicken-pox, on the contrary, terminates, sometimes in five or six days, or eight or ten at farthest, and nobody has ever been its victim.

‘Such are the essential differences which establish between these two diseases an evident line of demarkation, by the aid of which all error may be avoided; differences which, independent of the necessity of knowing how to make the distinction, in order to meet the attacks directed against the vaccine, it has always been important to recognize, since individuals have been formerly seen, who, deceived by the idea that they have already had the small-pox, have neglected to seek by inoculation of this disease, a preventive against its deadly attacks, and have sacrificed their life to this fatal persuasion.’

But, after all, where is the triumph of the antivaccinist, supposing even that all the pretended cases of reported small-pox after regular and perfect vaccination were true? Have not the advocates of the Jennerian discovery one million for every such case, in which vaccine has proved the best and the surest protection against that terrible scourge the small-pox? Nay, is it not agreed on all hands, that, even where the natural small-pox has actually invaded a person who had been regularly vaccinated, (and such instances, well made out, are few in number,) the disease has run its course in a milder manner than it is known to do under different circumstances, and has seldom, if ever, proved fatal to the patient? Are there not at this moment whole districts,—nay, kingdoms,—altogether free from the variolous pestilence, since the propagation of the Jennerian discovery? and what more can man expect from the work of man?

The Report is signed by Chaussier, president; Corvisart, Delasteyrie, Doussin-Dubreuil, Hallé, Huzard, Jadelot, J. J. Leroux, Parfait, Pinel, Salmade, Duchanoy, Alibert, Bourdois, Guérbois; and Husson, secretary; and is followed by an ordinance of the minister of the interior, decreeing the distribution of one premium of 3000, two of 2000, and three of 1000 francs each, to the individuals who most distinguished themselves in propagating vaccination; and the awarding of gold and silver medals, for the same reason, to upwards of two hundred persons, all of the medical profession, with one single exception.

A voluminous Table follows the Report, containing the names of the departments, their population, the number of births, of those vaccinated, those attacked with the small-pox, those rendered infirm or disfigured by that disorder, those who died of it; the proportion of vaccinations to the number of births, the names of the operators; the amount of the expenditure for promoting vaccination; and general observations. The total result taken from this Table, occupying twenty-six pages, may be collected from the following recapitulation:

	Population.	Births.	Vaccinations.	Subjects who had the Small-pox.	Deformed or Infirm from it.	Died of Small-pox.	Proportion of Vaccinations to Births.
81 Departs. 1818.		722,589	442,945	43,939	2,392	6,171	1 in 14
81 Departs. 1819.		835,550	425,510	52,036	4,264	6,586	1 in 2
Total	27,135,119	1,558,139	868,455	95,975	6,656	12,757	1 in 24
Amount of expenses in { 1818 95,292,57 } 198,206,90 fr. the two years { 1819 101,914,33 }							

London. Med. and Phys. Journal.

The extracts from the 'Rapport' have been translated for this Journal.—Ed.

A review of the work of Drs. Pariset and Mazet on the yellow fever which appeared in Cadiz in 1819 will be found in this number of the Journal. The following articles will not be read without interest. The first, a letter from Dr. Pariset, gives a true picture of the horrible effects of a practical belief in the doctrine of *contagion* as applied to the yellow fever. In the second article the contrary doctrine is supported. The authority for the opinions advanced in this last is unquestionable, and the facts upon which they are founded are not to be disputed.

Fever in Spain.

'Yes; the disease that now devastates Barcelona is the true yellow fever of America.

'Yes, it has been imported.

'Yes, I repeat it a thousand times, it is contagion. Let it be hoped that the facts, which we have accumulated will enable us to master the partisans of a contrary system.

'Yes; the fever is a hundred times more pernicious to commerce than the most rigorous quarantine would possibly be. With only five days' good police and firmness, both Barcelona and its commerce might, humanly speaking, have been pre-

served, even on the avowal of the anti-contagionists of this country. But what has been the fact? They wrangled, they disputed; the scourge entered, raged, proved fatal, and nobody knew how to remedy it. Hence all labour, all industry, all prosperity, is extinct for a long time. The heart itself has partaken of this depravity. The father shuns the presence of his children, and there is an adieu to every feeling of humanity! Oh, that the administration were unceasingly vigilant, and did not tamper in this amalgamation of follies and iniquities!

‘The other day it was announced to the municipal junta, that in the Calle Romada there was a shut-up house, whence there issued an offensive stench, and where an infant was heard crying time after time. The Alcaldes at length repaired to the dwelling; and, when the door was opened, there was found the body of a man disfigured greatly by the yellow fever, who appeared to have been dead about four or five days. Near the deceased lay the body of a dying woman, in a like manner disfigured by the disease; and upon her was found an infant at the breast, who, tormented by hunger, was feeding, as it cried, upon the body of the mother!’

‘An inn, which had fifteen travellers, lost eleven by the fever; while the adjoining house lost twenty-four out of twenty-seven.

‘At Tortosa, the bishop and his family are all dead, and the episcopal palace remains empty.

‘Whole congregations and fraternities in convents are dead; houses are swept of their inhabitants, and the streets are nearly deserted.

‘All the secretaries of the municipality are dead.

‘All the physicians, with a single exception, are also dead.

‘All the apothecaries, too, excepting one gentleman, have died.’—*London Med. and Phys. Journal.*

Dr. Jackson and Dr. James Johnson.—Dr. JOHNSON, of Spring Gardens, has addressed a letter to the Editor of one of the evening papers, on the subject of the yellow-fever now ravaging the southern coasts of Spain. We transcribe it without a comment.

The present epidemic in Spain.

[To the Editor of the Courier.]

Spring Gardens; Oct. 8.

SIR,—At a time when a most fatal pestilence is ravaging the southern coasts of Spain, and exciting such terror in the neigh-

bouring states as to induce them to put in force the most rigid quarantine discipline, it may not be uninteresting to the British public to know that a countryman of their own, the veteran Dr. Jackson, now, I believe, on the verge of seventy, went voluntarily, and at his own expence, last year (1820), to the scene of this fever's devastations, in order to ascertain whether or not it was contagious, and what were the most effectual modes of treatment. He has just published a volume, containing very curious and important observations on this dreadful epidemic. It is a consolation to know that this very able and experienced physician has proved, very satisfactorily, that the disease is of a local origin; that it never was imported into those countries where it now rages; nor is it possible, almost, that it should ever be transported thence to any distance among the states in its vicinity. Popular prejudice having assigned the disease a foreign origin, popular terror has clothed it in properties of the most virulent contagion; and this last error has so divested the people of common humanity, that not only are the sick and wounded abandoned to their fate, but those who fly to the open country or mountains, (where, in fact, the malady cannot exist, much less propagate itself,) are treated like contaminated deserters from a pest-hospital, and either left to starve or put to death by their barbarous countrymen. It is consoling, however, to be certain (and it is most certain,) that a few weeks more,—that is, the approach of cold weather,—will cut off the sources of the epidemic, (which could not be the case were it a common contagion,) and thus annihilate, at least for a season, the disease itself.

In proof that the disease is not personally contagious, Dr. Jackson brings forward the following, among other authentic facts:—‘ In the year 1800, when upwards of ten thousand people died at Xeres de la Frontera, sixty persons were employed to bury the dead. The buriers entered the houses where the dead lay,—took the bodies in their arms, often, it is presumed, in a loathsome state,—put them into the carts in heaps, and drove them to the place of interment. None of the buriers were infected.’ A somewhat similar event happened in the year 1819, at Saint Lucar. The buriers of the dead having shamefully abused their office, the friars of the Franciscan convent most nobly volunteered the interment themselves. ‘ The offer,’ says Dr. Jackson, ‘ was accepted; and the friars, on entering on the duty they had thus imposed upon themselves, found the majority of the houses, or sick apartments, deserted, the bodies of the dead lying in various postures upon beds or on the floors. They wrapped them in sheets, or in such other covering as presented itself in the apartment, carried them to the bier

in their arms, and afterwards in the bier on their shoulders to the grave. Not one of the meritorious band was attacked by the disease.' In short, from the records of the past and the evidence of the present, there is not the least reason to doubt that the epidemic now ravaging Andalusia is of the same nature, though perhaps more violent in degree, as those which have, in autumnal seasons, appeared in the same places, at longer or shorter intervals, for centuries. The poison, or malaria, which produces the disease, is the product of the soil itself, elicited by particular seasons; and the fever so generated, if directly exported to other countries, could not there be propagated, for want of its primary pabulum.

Such is the opinion of Dr. Jackson, who visited the dying, and examined with his own hands the dead, so lately as in October 1820. It is also the opinion of the most enlightened English and French physicians who have visited the unfortunate theatre of the pestilence. Excepting the inconvenience, no harm apparently results from the quarantine precautions adopted by the neighbouring states; but the contagion conviction, impressed on the minds of those residing in and near the sickly towns and districts, gives rise to the most deplorable events, and deprives the unhappy sufferers of all succour or consolation from even their nearest friends or relatives! The operations of nature, however, and the revolution of the seasons, will soon put a period to the ravages of the epidemic.

JAMES JOHNSON, M. D.

An Account of a new Mode of preserving an equable and salutary Temperature of the Air of Rooms for Consumptive Patients.
By THOMAS ANDREW KNIGHT, Esq. F. R. S. President of the Horticultural Society, &c. &c.

I TRANSMIT the following communication to the London Medical and Physical Journal, under an impression that it points out a better method of creating an artificial climate for patients with tender lungs, than any generally known; and I write with the hope of averting from other parents, and other families, a calamity which I believe it has been the means of averting from me and my family.

The patient, who was subject to the mode of treatment which I proceed to describe, had been perfectly healthy, though her appearance was delicate, from her birth, till she married, and had one child. Her appearance then, in her nineteenth year, became consumptive; and, within a few weeks afterwards, a sud-

den and very considerable discharge of blood, apparently from her lungs, but too plainly pointed out the nature of her complaint. It was proposed immediately to convey her to a southern climate; but, owing to events which I need not detail, this was not done. She passed the first winter in rooms which were kept warm and as of equal temperature as circumstances would permit; but there was a necessity for several blisters and the application of leeches. In the succeeding summer, her health and strength appeared somewhat to improve; but at the end of the following winter she was so much emaciated and reduced by a long-continued discharge of blood from her lungs, and the effects of her feverish state, that I thought all hope of her recovery past; and I should have been much less unhappy respecting her if she had been at peace in her grave. I had, however, the consolation to find that her physician, Dr. Wilson Philip, (whose important and singular physiological discoveries have, of course, made his name familiar to every medical man,) did not despond. He pronounced decisively that, if she remained another winter in the climate of England, her death was inevitable; but he expressed his hope and belief that, if she could be placed in a situation where she could have the benefit, during eighteen successive months, of a climate as favourable as the best part of an English summer, she would recover her health and strength, and be subsequently able to bear an English winter, though her lungs could never wholly regain their former power. Measures were consequently taken to convey her abroad; but I found in her a settled conviction that she should go never to return, and that her remaining strength was wholly unequal to the exertion necessary.

Under these circumstances, I thought only of the best means of giving her, as far as practicable, the advantages of a warm and temperate climate at home; and, having been much in the habit of making such climates for plants, I looked forward with some hope, though with trembling anxiety, to the result. I stated to Dr. Philip my confidence that I could give to the air of the rooms in which I proposed that she should pass the winter, such a degree of humidity (she breathed most freely in somewhat damp weather,) as should be found best to agree with her, and any temperature, with little variation, which he should think likely to be most beneficial; and the following plan was adopted, with (under existing circumstances,) his most unqualified approbation. A flue of sufficient power, and surrounded by an air-chamber of just sufficient dimensions to permit a person to go round the flue to ascertain that no smoke escaped into the air-chamber, was constructed wholly of brick-

work ; space being prepared to receive garden-pots, to be filled with wetted sand, to give to the heated air the requisite degree of humidity ; and, from the top of this air-chamber, pipes of tin, cased with wood, were made to convey a warm current of air, to rise through different parts of the floor of every room into which she should have occasion to enter. She was thus given the benefit of a warm temperature,—that of sixty degrees, with little variation,—as proposed by Dr. Philip, with a constant and rapid change of air. A summer temperature of eighteen months was thus given, and the result has succeeded my most sanguine hopes. The patient has perfectly recovered her health and strength, and she suffers no further inconvenience from her past illness than inability to walk briskly up hill, or to sustain any continued bodily exertion, without being soon out of breath.

Particular attention was paid to prevent the temperature of the air of the bed-room of the patient from becoming too low at an early hour of the morning in winter ; that being the time at which, I have had reason to believe, patients with tender lungs usually suffer most in cold weather. It is probable that, in the case above stated, the patient was, to a great extent, benefited by judicious medical treatment in every other respect : but upon this subject I do not feel qualified to speak.—*London Med. and Phys. Journal.*

*Contusions on the Epigastrium.**

WE are all familiar, from our school-boy days, with the distressing sensations produced by even a slight blow on the epigastrium. The following cases will be found interesting, not only as to the nature of the injury, but as to the remedial measures pursued in one of them.

Case 1. A soldier in the 1st regiment of cuirassiers, 29 years of age, received a blow, by the kick of a horse, on the epigastrium, 18th October last, which felled him to the ground, whence he could not rise. He was bled instantler, and conveyed to the military hospital of the guards, where Baron Larrey found him motionless, pale, skin cold, eyes fixed, breathing feeble and slow, pulse scarcely perceptible. The epigastrium was so tender that the least pressure there caused the patient to utter groans. He otherwise spoke not. There was no appearance of injury on the part. Six cupping glasses (cum ferro) were applied to the

* *Revue Medicale*, August 1821. M. Duponchal.

epigastrium and vicinity. The application was very painful, but gave some relief to the patient, who opened his eyes, and expressed by interrupted words a sense of betterness. The pulse rose a little. This operation finished, Barron Larrey caused a sheep to be instantly pithed, and the skin, torn reeking from the body, to be enveloped round that of the patient. Round this hide again were thrown warmed blankets, in order that the temperature might be kept elevated for some time. In this situation the man remained two hours, at the expiration of which time things were greatly altered for the better. The coldness of the surface was gone—some colour returned to the face—and the patient could give an account of the accident. Nevertheless he passed a very bad night, continually complaining. On the succeeding morning he presented the following symptoms. Epigastrium and abdomen still very painful and tumefied—violent pain in the right shoulder, which induced a suspicion that the liver was injured—the pulse was full, strong, quick—tongue and mouth dry—thirst ardent;—but there was neither hiccup, vomiting, nor head-ache. The eyes were sunken, and very red—the face pale, and the features sharpened, exhibiting the expression of intense suffering. Warm bath, copious venesection, cupping, warm embrocations, diluents, no food.

The third morning presented little change. The tenderness of the abdomen was still extreme, and the other symptoms continued—and in addition the patient felt as if the right arm was fractured. On this member camphorated oil was rubbed. Emollient fomentations to the abdomen—diluent drink. On the fourth day, although the pain of the epigastrium was acute, yet the patient could bear pressure on the part somewhat better. The other symptoms were rather milder—the bowels were relaxed throughout the complaint—but the pain in the arm principally engrossed the patient's attention. He still insisted that there was a fracture there. A blister to the epigastrium. From this time the symptoms became gradually ameliorated, and, by the 12th day, convalescence was assured, and appetite restored. Convalescence continued till the 24th November, when some irregularity determined a relapse, presenting all the symptoms of acute hepatitis, which, however, gave way to local bleedings, blisters, and at last the moxa. He was discharged to duty in the beginning of December.

M. Duponchal thinks that this patient would certainly have been lost had it not been for the extraordinary measure put in force by Baron Larrey, as above related. This was the third successful employment of the same measure by the Baron, at the Military Hospital. The application of a recently excoriated

sheep's hide is directed by Ambrose Paré, as a last resource in violent contusions, and where life is menaced by the first effects of the shock. Baron Larrey, in the first volume of his *Memoirs and Campaigns*, reports the instance of some sailors who were shipwrecked on the coast of Labrador, and picked up on the beach by the Esquimaux Indians, almost dead with cold, and exhausted with fatigue. These hospitable creatures placed the sailors on dried skins, chafed their bodies and limbs with hot aromatic liquors, and then enveloped them in the freshly excoriated hides of animals which they killed for the purpose. The inhabitants of Upper Egypt also are acquainted with this remedy. In violent, but very circumscribed contusions, they eviscerate a dove or other bird, and apply it warm to the part—but, where the contusion is extensive, they surround the body of the patient with the hide of a sheep just stripped from the body of the animal. In the memorable Russian Campaign, it is said that the most effectual mode of preventing the complete congelation of a limb, was to fold it in the skin of an animal just killed—or even to plunge the member into the reeking entrails of a horse.

We are disposed to agree with the author of the paper before us, that there is something more congenial in a warm, and we might say half-alive substance of this kind, than in any unorganized medium through which a similar degree of temperature could be kept to the part or whole of a human body. Our author proposes the application in question, in cases of repelled eruption, and to a limb after the operation for aneurism. To these propositions we can have no objection.

Case 2. This had not so favourable a termination as the former. On the evening of the 3d May, 1820, N——, a soldier in the Royal Guard, received, while attempting to mount a horse, so violent a kick on the umbilical region as felled him to the earth. He was instantly carried to the military hospital, and the surgeon on duty applied to the abdomen several cupping-glasses with scarificators, which abstracted an abundance of blood. This measure produced but little relief, and the patient passed the night in great anxiety. In the morning, when the surgeon in chief visited the wards, the patient was found lying on his back, the breathing difficult, the heart beating irregularly, the pulse scarcely perceptible, the extremities cold, the lower belly very painful, especially on pressure, or the least motion of the body. More blood was drawn from the abdominal parietes by cupping, and the patient was immersed in a tepid bath, after which, frictions with camphorated oil of chamomile were employed. A calm of a few minutes was followed by the

most alarming symptoms, which terminated his life about fourteen hours after the accident.

Necrotomy. No external mark of confusion on the abdomen; but the peritoneum reflected over the internal surface of its anterior parietes, as well as that covering the intestine, was of a deep red colour, and presenting all the phenomena of intense phlegmasia. Recent albuminous exudations had already agglutinated the convolutions of the intestines, and a pint and a half of a reddish coloured serum was effused in the abdominal cavity. The coats of the stomach were slightly injected. The duodenum appeared sound, but there was a circular hole in the jejunum, surrounded with a margin of ecchymosis. Nothing particular was observable in any other viscus of the thorax or abdomen.

The narrator has no doubt that the main cause of death was the rupture of the intestine and the extravasation thence producing peritonitis. The *immediate* cause of death, however, he attributes to *pain*, as happens in almost all the hyper-acute inflammations of serous membranes. There is nothing wonderful in the internal rupture without external mark of violence, in cases of blows on the abdomen as we have often witnessed.

*Hydrocephalus.**—It has occurred to Sir Gilbert Blane that the distention of the head and bregma, in hydrocephalus, 'is owing to a want of firmness and due resistance in the bony compages of the skull, which consequently yield to that effort of pressure with which the brain, in its growth, acts on the parietes.' Reflections of this kind suggested to our author 'that mechanical compression of the head might be of use in the cure of hydrocephalus.' He accordingly made trial of it in the case of a child thirteen months old, who had a head of preternatural size almost from birth, and where the bregma was unusually large. The child was otherwise rachitic. Sir Gilbert directed the head to be swathed with a roller as tight as possible, short of producing pain or uneasiness. Leeches were applied to the temples, a purgative given every two days. 'An immediate amendment took place, which continued so that all complaint was removed in less than three months, except the curvature of the spine.' Sir Gilbert, afraid of the old complaint that 'there is nothing new under the sun,' has searched the records of medicine for parallel or precedent, but has not found any. The discovery is therefore original. But Sir Gilbert Blane is too good

* Sir Gilbert Blane, Med. and Phys. Journal, Oct, 1821.

a medical logician to attach any importance to a single case, even were that case most unequivocal. In the present instance, we do not see just grounds for attributing the cure to the bandage. The pressure of a roller, so slight as not to occasion 'pain or uneasiness' in an infant's head, must be next to nothing; and where leeches and purgatives were used coterminously, it is needless to say that no conclusion can be safely drawn respecting the share which the bandage might have produced. In a P. S. indeed, Sir Gilbert Blane has wisely limited the application of pressure to 'those indications of predisposition consisting in a large head, a tardy closing of the bregma, broad pupils, and rachitic diathesis, or to causes in which the acute stage has been vanquished by evacuations and mercury, &c.' Within such restrictions, we can have little objection to the application of a roller to the head, or hope of its producing any beneficial effects there.

P. S. When we had closed the above paper, we read a case in the *Edinburgh Journal*, of same date, which divides the honour of the discovery between Sir Gilbert Blane and Mr. Hood of Ayton, Berwickshire. Mr. H. tried pressure in precisely the circumstances under which Sir Gilbert recommends it, but without success—namely, after the febrile symptoms and squinting had subsided, the head continuing to increase in size. Mr. Hood now bandaged the head, but this measure brought on fits, and was therefore abandoned. An operation was afterwards performed, and six ounces of limpid blood drawn off by means of a trocar; but the child died.—*Medico-Chir. Review*.

Some additional Facts relating to the Division of the Eighth Pair of Nerves; communicated in a Letter to the Editor of the Journal of the Royal Institution, by A. P. W. PHILIP, M.D., F.R.S. Ed., &c.

[From the Quarterly Journal of Science, Literature, and the Arts.]

I CANNOT, in any way, refer to the division of the eighth pair of nerves, without taking the opportunity to acknowledge the very candid and liberal manner in which Mr. Broughton has, in the last Number of the above Journal, stated the results of the experiments lately performed at the Royal Institution.

It appears, from the observations of that gentleman, that it is admitted by all who witnessed these experiments, that after the eighth pair of nerves are divided in the neck, and the lower

portion folded back, little, if any, progress is made in the digestive process; whereas, if the divided ends are not displaced, its progress is still considerable.

An interesting question here arises, whether in the latter case the nervous influence is still conveyed in consequence of the divided ends of the nerves remaining in actual contact, or in consequence of its passing through moisture or other intervening bodies?

In order to determine this question, the following experiment was made, in which Mr. Cutler, Assistant Surgeon to the second regiment of Life Guards, had the goodness to assist me.

A rabbit was kept without food for twenty-four hours, and then allowed to eat as much parsley as it chose; as soon as it ceased to eat, the eighth pair of nerves were divided in the neck, without displacing them. It was evident, both to Mr. Cutler and myself, that at the moment the division of the nerves was made, the ends so retracted as to cause them to separate from each other to about the distance of the sixth part of an inch. The animal was allowed no food after the operation. It was found dead at the end of eight hours.

On the stomach being opened, it appeared that digestion of the new food had made considerable progress. The neck was examined, and the divided ends of the nerves were found to have remained at the above-mentioned distance from each other.

This experiment was repeated in all respects in the same manner. The ends of the nerves now retracted to the distance of a quarter of an inch from each other on both sides. The animal lived about six hours, and the digestion of the new food was far advanced.

Mr. Brodie examined the state of the food and the position of the divided nerves in this rabbit; and both he and Mr. Cutler allow me to state, that they are satisfied that the nervous influence had, in the foregoing experiments, passed from the upper to the lower portions of the divided nerves.

The following facts, relating to the division of the eighth pair of nerves, and the power of galvanism in obviating its effects, appear now to be admitted on all hands:—

That after these nerves are divided in the neck, and the lower portions folded back, little, if any, progress is made in the digestive process.

That if the lower portions, thus folded back, be connected with the positive end of a voltaic battery of a certain power, the other end of the battery being connected with the skin over the stomach, the efforts to vomit which follow the divi-

sion of the nerves do not take place; and digestion goes on as perfectly, as far as can be judged from the appearance of the contents of the stomach, as in the healthy animal.

That when, instead of the lower portions being folded back, they, as well as the upper portions, are allowed as much as possible to remain in the natural position; digestion makes great progress, notwithstanding the divided ends so retract, as to be separated from each other by the distance of a quarter of an inch.

That the difficulty of breathing occasioned by the division of the eighth pair of nerves in the neck, is prevented by the influence of the voltaic battery applied in the way above pointed out.

The reader will judge how far these facts tend to establish the identity of the nervous influence and galvanism.

But in judging of this question, it is necessary, in addition to the foregoing facts, to keep in view those which seem to prove that the nervous influence is altogether distinct from, and has nothing in common with, the sensorial and vital powers, and possesses no properties but those of a chemical agent; and that the influence of the voltaic battery is not only the best of all stimuli to the muscular fibre, and capable of passing along the nerves in either direction, but is also capable of raising the temperature of living arterious blood, while it can produce no such effect either on venous blood, namely, that which has already undergone the effects of the secreting power, or on arterious blood, which has lost the vital principle. I need not here refer to the well-known facts of electricity being evidently conveyed by the nerves and under the power of the will in certain animals, and the newly dead brain forming, with other parts of animals, a galvanic apparatus.

It has been said, that the restored digestion and free breathing produced by the influence of the voltaic battery after the interruption of the nervous influence, may arise from the former acting as a stimulus to the secreting surfaces; but it will appear, I think, that this explanation, which is derived from the laws of the muscular system, is founded on a false analogy. It is proved, by the most simple experiments, that after the nerves of a muscle have been divided, the application of a stimulus still calls it into action; the cause of which is explained by those experiments, which prove that the muscular power is independent of the nervous system, and only affected by its influence in the same way as by other stimuli. But with respect to the secreting power, all the experiments on the subject combine to prove, that it so immediately depends on the nervous system, that it

ceases to exist as soon as the influence of that system is withdrawn.

It may be proper to add, that the experiment which proves that the division of the nerves only destroys the secreting power when one portion of them is folded back, is an *experimentum crucis* respecting the subject of my late discussion with Dr. Alison. It appears from it, that it is not the injury done to the nerve, but the interruption of the nervous influence, which destroys the secreting power.

Mr. Field found that an opening made in the trachea of a horse, large enough freely to admit of the introduction of two fingers, had no effect in relieving the dyspnœa occasioned by division of the eighth pair of nerves.

Survey of and Remarks on Fifty Operations for Hernia. By Dr. Massalien, of Heunuth.

THESE fifty cases came under the observation of Dr. Massalien, during a practice of thirty years previously to the year 1810. Of these cases there were—

29 in Males and.....	21 in Females.
Of which there were 25 inguinal and 4 femoral.	Of which there were 5 inguinal, and 16 femoral.
11 Men and.....	9 Women died.
19 inguinal and 3 femoral were on the right side; 5 inguinal and 1 femoral on the left.	5 inguinal were on the right side; 9 femoral on the right, and 7 on the left.

On two men the operation was performed in adherent Entero-Epiplocele, without strangulation, since the reduction and the application of a proper bandage were impossible; the frequent colicky pains rendered the occurrence of strangulation probable; one of these was a scrotal, the other a femoral hernia, both on the right side, and in both the portion of omentum was separated from its adhesions, and removed. They both recovered quickly, and wore light trusses, to avoid a relapse. The remaining forty-eight were all strangulated, some for eight days, and one for ten, before Dr. Massalien was called; and to this it was owing that twenty perished after the operation. To the objection (if such could be made) that he should not have operated at so late a period, Dr. Massalien answers by mentioning one case on the ninth day, two on the sixth, and seven on the fifth, day of strangulation, in which the operation was performed with success. In one female on whom the operation was performed, the ninth

is generally more uniform, and more firm; its volume does not exceed twice or thrice that of the healthy testicle; the spermatic chord remains unaffected. In the medullary fungus of the testicle, the organ usually acquires a more considerable size; the body of the testicle and the epididymis becomes soft, and affords a deceptive sensation of fluctuation, which has sometimes caused the case to be mistaken for hydrocele. If the disease is far advanced, the scrotum changes colour, becomes livid, and at length ulcerates. When this happens, the chord commonly participates in the tumefaction, and in the deceptive fluctuation above mentioned. The swelling of the chord continues even up to the abdominal ring, and the abdomen cannot be pressed without causing great pain in the loins.' Two cases are mentioned by M. Maunoir, in which he put in practice the new proposal. The following is the most striking:—A man, thirty-five years of age, without any assignable cause, was attacked with pain in the left testicle, which was continued along the spermatic chord, and extended to the lumbar region. A remarkable swelling also affected the testicle, and there was a deposition of fluid in the tunica vaginalis which was punctured. The accumulation again quickly recurred, and was evacuated twelve times successively; the testicle at the same time acquired so considerable a size, that its extirpation, which had become necessary, appeared likely to be attended with danger. M. Maunoir, on the 8th of June, 1820, tied the spermatic artery, and divided it below the ligature. On the 4th of July, the diminution of the tumour was evident. He quitted the hospital on the 20th of August, when his testicle was perfectly without pain, and not larger than the opposite one. The pain was removed by the ligature as by enchantment, and the radical cure of the hydrocele, at the same time, took place. Although we are of opinion that the proposal displays considerable ingenuity, and may certainly be applicable in some instances; as there are many kinds of swellings of the testicle, it might not in some be so prudent as the complete removal of the whole disease.—*Quarterly Journal of Foreign Medicine and Surgery.*

Cases of remarkable Dislocation of the Patella, communicated by
Mr. L. WHEELER.*

THE dislocation of the patella, inwards and outwards, frequently takes place, and particularly in the latter direction, on

* For permission to relate the first case, I am indebted to the kindness of Mr. Stanley, assistant-surgeon to St. Bartholomew's Hospital.

account of the external condyle being less prominent than the internal; the following are, however, examples of a curious and more uncommon dislocation of this bone:—

Sept. 18th, 1821.—A coal-heaver fell down so as to allow both the fore and hinder wheels of an empty coal-waggon to pass over his right knee, in a direction from the inner to the outer side of the joint. He was immediately brought to St. Bartholomew's Hospital. The patella rested perpendicularly on its internal edge, and its external edge was inclined directly forwards, so that its upper surface was turned inwards, and its under or articular surface outwards; in the same way as the extended hand might rest on its ulnar edge, instead of its palm. I speak of the horizontal position of the body. The bone was placed so nearly in a perpendicular direction, that it was not easy at first to ascertain which was its upper, and which its under or articular surface, but this was distinguished by comparison with the superior surface of the opposite patella. The insertion of the vastus externus into the external edge was the only tendinous attachment which was much stretched. I reduced the dislocation suddenly, but with some difficulty, by bending the thigh very much on the pelvis, drawing downwards the flexor muscles as much as possible, and by forcibly raising the bone at the same time that I turned it in its natural direction. Some inflammation in the joint followed, but was arrested by the usual means.

The following case related by M. Combette, will be found in the *Journal Générale de Médecine* for May, 1821:—M. C., thirty years old, dislocated his patella in wrestling by a motion which he could not describe. There was a projection at the knee; the leg was permanently extended. The patella rested completely on its edge, its articular surface being turned outwards. The internal half of its circumference was fixed in the articular groove formed by the elevation of the sides of the anterior part of the condyles of the femur.

Reduction.—An assistant raised the thigh, and with one hand M. Combette bent the leg on the thigh, while, with the other, he turned the patella from within outwards. The reduction was effected in an instant, and was followed by slight swelling and weakness. Six months afterwards, in dancing, the same accident happened in a less complete degree; for the patient was able to replace the bone himself. The joint is perfectly well formed.—Another example, of the same kind of dislocation of the patella, is also related in the 64th volume of the *Journal Général de Médecine*, p. 79.—*Quarterly Journal of Foreign Medicine and Surgery.*

On the prophylactic power of Belladonna against Scarlatina.
By Dr. BERNDT. (From Hufeland's Journal of Pract. Med.)

If the prophylactic virtue which, according to Hahnemann, the belladonna possesses against contagion and scarlatina should be confirmed, the discovery will certainly be reckoned amongst the most important of modern times, and will rank next to that of vaccination itself. We are not aware that the attention of the faculty in this country has as yet been directed to the subject, but it is probable that opportunities will not long be wanting to put the alleged virtues of the medicine in question to the test of experiment.

Dr. Berndt was led to the employment of belladonna as a prophylactic, in consequence of an opinion which he formed of the nature of scarlatina. Conceiving that that disease affected primarily the ganglionic nervous system, it occurred to him that to prevent the action of the contagion, it was sufficient to find out some agent which, by exciting a specific action in that system, would destroy, or at least diminish, the susceptibility for contagion, while it exerted its influence on the vital organization. The belladonna, which had been recommended before by Hahnemann, and employed by some other practitioners with the same object, appeared to him as calculated to fulfil this indication; and in order to ascertain how far his theoretical speculations were founded in truth, he resolved to make some trials with the medicine, particularly the newly prepared extract.

In order to obtain accurate results, the medicine was at first tried on individuals exposed to the direct influence of scarlatina contagion, and particularly on children under the age of fifteen, who, on account of their age and more immediate and frequent intercourse with the sick, are more susceptible of contracting the disease. The dose was regulated according to the age, &c. The following was the formula made use of:—

R Extr: Belladonæ rec. parat. gr. ij.

Aquæ Cinnamomi vinosæ, unc. j.

To an infant one year old, two or three drops of this solution were given morning and evening for the first few days; to one of two years, from three to four drops, and so on, augmenting the dose by one drop for every additional year, till it was carried to twelve drops, which was the maximum.

The result of these experiments were:—

1. Of 195 children, daily exposed, and to whom the belladonna was administered, there were 14 who, notwithstanding

the preservative means, were attacked with scarlet fever, while the other 181 remained exempt from it.

2. From the same experiments, made with a solution of three grains of the belladonna, upon a great number of individuals equally submitted to the influence of the epidemic, it resulted that *all* were preserved from the disease.

3. The small number of children who contracted the scarlet fever notwithstanding the preservative, presented symptoms less severe than those usually observed in similar cases.

The following articles are from Hufeland's Journal.

1. *Sur l'Emploi, &c.—On the Use of Sub-Nitrate of Bismuth (Bismuthum Nitricum præcipitatum) in Intermittent Fevers.*
By Dr. HENKESON.

Dr. Henkeson has found this salt succeed in curing most of these fevers, and thinks it will prove a valuable substitute for the cinchona, where the latter cannot be easily had, or may be contraindicated. The dose is four grains mixed with a little sugar, and repeated every two hours till the paroxysms are arrested.

2. *Cure of Chronic Hydrocephalus*—effected on the principle that the disease depended on manifest debility of the absorbent system, with languid and tardy development of the organization in general, by means of calomel and digitalis, mercurial frictions, and warm aromatic baths.

3. *Cure of Chorea*.—As unequivocal signs of the presence of worms indicated the employment of anthelmintics, a decoction of contrajerva and geoffrœa bark was administered in combination with infusion of valerian. This treatment continued for several weeks, brought away a great quantity of ascarides, and removed the fever, but had no sensible effect on the locomotive system: the anomalous pains still continued, but were repressed in about a month by the use of oxide of zinc, and finally disappeared under the employment of cinchona.

4. *Cure of Epilepsy*.—As the disease was not purely nervous, but complicated with an augmented vascular action, the treatment was commenced by venesection, followed up with the oxide of zinc and extract of hyoscyamus.

5. *Cure of an Aneurism of the Heart*.—The symptoms in this case were acute pain in the left side of the thorax, exactly in the region of the heart, with strong and unremitting palpitations. The pain was pungent, combined, and increased on the slightest external pressure, by bodily exercise, particularly that of ascending a flight of stairs; the palpitations of the heart,

which did not correspond with the pulse, were so strong as to be visible to the eye. The patient complained at the same time of a tumour, situated, according to him, in the region of the heart, but imperceptible to the touch. The respiration was oppressed, but not difficult, nor attended with anginous feelings. The chest was frequently the seat of spasms, accompanied with giddiness, dimness of sight, and pulsating pains in the head. The patient's look was fixed, the eyes protruding, the pupil enlarged, the epigastric region distended, the bowels slow and the motions hard, with burning pain in the back and rectum.

If such symptoms are decisive of aneurism of the heart, it must be allowed that the cure was cleverly effected:—one bleeding of six ounces, a few doses of salts and lenitive electuary, which procured several motions, relieved all the symptoms in three days; and after the use of digitalis and aqua lauro-cerasi, the patient was discharged perfectly cured.

The preceding cures took place in the *Institution Polyclinique* of Berlin, under the direction of Hufeland.

Application of the Vapour of Boiling Water, as a Counter-Irritant.—Professor Dzondi, of Halle, was called to a child nearly suffocating from a catarrh, and where all means had failed in procuring relief for the difficult breathing. Seeing a tea-kettle boiling on a pan of charcoal, it struck him that in a case of such danger he might employ an unusual remedy, and he therefore directed the boiling hot vapour on the child's breast, from the bottom of the neck to the scrobiculus cordis, and thence right and left in the direction of the diaphragm. A red stripe, the breadth of a finger, was thus produced, and some hours afterwards, one continuous vesicle formed. The difficult breathing was immediately relieved, and the child did well. He has subsequently applied the same remedy in some cases where the application of the actual cautery was indicated, but where the patient could not make up his mind to submit to it. For the more ready application of the vapour, Dzondi has caused an instrument to be made, which contains from one to two ounces of water, is provided with tubes of different diameters, straight and crooked, and with a spirit lamp. To guard the neighbouring parts, a covering of cork or pap, or of several folds of paper, is pressed firmly down upon them, and the vapour is directed through the opening left in this. According to circumstances, the remedy can be applied either to act as a local vapour bath, or a rubefacient; as a vesicatory, or to produce a secretion of pus. To obtain the most violent effects, the narrow aperture of the tube must be held from one to two lines distance only from

the skin ; three or four seconds serve to produce a vesicle, and from seven to nine seconds produce a discharge of matter, lasting for several days or weeks.—*Med. Intel.*

New Balance.—Mr. Herapath has ingeniously contrived a balance without friction, or with as little as possible, which has always been a desideratum among chemists. He has, in a great measure, accomplished this in making one for his own use, by suspending the beam from a magnet. The scales are hung upon the points of needles rivetted into moveable pieces. He has used it with 165 grs. in each scale, and has no doubt but it would have carried 250 ; it possesses this advantage, that the friction of the axis is reduced as the weight is increased, and, of course, it is most sensible, with the greatest weight. The extremities of the magnet are convex, to reduce the points of contact ; the scales are made of jeweller's foil, and, with the beam, weigh 62.75 grs. When loaded with five grs. in each scale, 1-100th grain moves the index through an arc of 10°. The axis has knife edges, but he intends making one with points, and with two brass rings surrounding it, to prevent its falling in case of accident. He proposes to have a set of magnets of various strengths, so as to apportion the attraction to the weight.—*lb.*

Gymnotus Electricus.—A *gymnotus electricus*, or electric eel, lately arrived alive, and in good health, from Surinam, at the Jardin des Plantes, at Paris. The savans and naturalists were all in motion, and hastened to see with their own eyes and touch with their own hands this living electrical machine. The greater number were satisfied with a single touch and consequent shock ; but one doctor, either urged by a greater zeal for science, or governed by a more insatiable curiosity, resolved to try the extent of the animal's powers, and seized it with both his hands, but had quickly reason to repent his temerity, for he immediately felt a rapidly repeated series of the most violent and successively increasing shocks, which forced him to caper about in the most extraordinary manner, and to utter the most piercing screams from the agony that he felt. He then fell into convulsions, in consequence of which, his muscles became so contracted, or from some strange property in the fish, it became impossible to detach the animal from his grasp. In this situation he remained a considerable time, and would in all probability have expired under the agony of his sensations, if some one of the persons present had not suggested the idea of plunging his hands in water, when the eel immediately dropped off. He (the doctor) has been since most dangerously ill.

'*Ecole Physico-Pathologique.*'—A-PROPOS of Dr. BROUSSAIS. Our readers will not be displeased to see in what estimation the theory and practice of this professor are held by some of his brethren in Paris. We copy the following *jeu-d'esprit* from a highly respectable Journal of July last. Those who have read the very able exposition of Dr. Broussais' system in Dr. James Johnson's Review, and our own feeble endeavours to set a real value on the doctrine of this foreign professor in the Medical and Physical Journal of last month, will easily comprehend the drift of the following translation in reference to one who contends that all complaints arise from the stomach, and that lemonade and leeches are to cure every complaint.

'A distinguished man of letters, who is publishing a new edition of Moliere, aware of the ridiculous appearance of some modern physicians, has determined to make some variations in the celebrated scene of the comedy of that author, entitled '*Le Malade Imaginaire.*' The following is a specimen:—

Toinette (dressed as a physician.) Let me feel your pulse.—Come, come, beat as you ought. Ah! I'll soon make you go right. Faith! this pulse is mightily impertinent. I see plainly it does not know whom it has to deal with. Who is your attending physician, sir?

Argan. Monsieur Purgon.

Toin. That name is not to be found in my pocket-book, amongst the physicians of eminence. What did he say was the matter with you?

Arg. He says my liver is affected: others contend that it is the spleen.

Toin. Pooh! pooh! They are a pack of *ignoramus*. It is your stomach, sir, that is affected.

Arg. The stomach?

Toin. Yes! the stomach. What do you feel?

Arg. I have occasionally the head-ach.

Toin. Exactly so. The stomach.

Arg. I sometimes see double;—I have a veil over my eyes.

Toin. The stomach!

Arg. And a great difficulty in breathing.

Toin. The stomach again!

Arg. I suffer from great languor and lassitude in all my limbs.

Toin. The stomach!

Arg. And I now and then feel pain in my feet, in my heels, and toes, as if I had the gout.

Toin. Exactly so. It is the stomach! You eat with good appetite?

Arg. Yes, sir.

Toin. The stomach! You like to drink a small quantity of wine.

Arg. Yes, sir.

Toin. The stomach! You feel rather drowsy after dinner, and delight in taking a nap?

Arg. Oh yes, sir.

Toin. The stomach—the stomach, I tell you! What has your physician desired you to eat?

Arg. He desired me to take some soup.

Toin. *Ontologist!**

Arg. And chicken.

Toin. Fatalist!

Arg. And occasionally veal.

Toin. Incendiary!

Arg. Broth.

Toin. Murderer!

Arg. Some fresh eggs.

Toin. What an assassin!

Arg. And stewed prunes in the evening.

Toin. Incendiary, and murderous diet of the ontologic school!

Arg. And, above all, he desired me to put water to my wine.

Toin. *Ignorantus, ignoranta, ignorantum!* This is not the way of a *medecin physiologiste*. You must drink pure water, which is indeed too nourishing as it is: it will calm the gastro-intestinal irritation under which you labour; and thin your blood, which is now too dense. You'll apply five hundred leeches to the pit of the stomach, which will remove the *gastro-enteritis* in the twinkling of an eye. Don't you see that 'irritation is preying heavily on the mucous membrane of your stomach, from whence it extends its malignant power over all the organs of your economy, through sympathetic irradiations?'† Be assured that your physician is an *ontologist*, who will believe only what he sees. I will come again to see you in a fortnight, if you are alive; and, above all, rest assured that, if I have abused my brethren of the profession; it was not through envy, but for the good of mankind. How superior to them all the *doctrine physiologique* makes me!—a doctrine which is destined to do more good even than the immortal discovery of Jenner.‡—*Lond. Med. and Phys. Jour.*

* An appellation of contempt adopted by Dr. Broussais, to designate all those physicians who seem to have identified or personified the different causes producing diseases,—such as the gouty principle, the scrofulous humour, &c.

† This is not a parody, but the real language, of Dr. Broussais, repeatedly met with in his work on Phlegmasiæ, and the 'Examen des Doctrines Médicales,' which we reviewed in our last Number.

‡ This is verbatim the manifesto of Dr. Broussais. 'Ma doctrine doit avoir prochainement sur la population une influence plus marquée que la découverte de la vaccine.' *Rinun tenetis Ptoxi!*

INTELLIGENCE.

WE have lately received a copy of the Report of the Committee appointed by the House of Commons on the establishment of the Ophthalmic Hospital, Regent's Park, and on the claims which Sir William Adams has upon the British public. Without inquiring into the origin of the ophthalmia, the Committee appear to have satisfied themselves that the disease has become more prevalent and more severe in its character since the return of the British troops from Egypt. In this report are extracts from the letters of Mr. Keate, the late Surgeon General, to the Secretary at War; from those of Dr. Vetch, Staff Surgeon of the Ophthalmic Dépôt at Bognor, expressing their belief in the contagious nature of the disease, and urging the adoption of some powerful means of prevention.

In the year 1810 a board was appointed, consisting 'of the three principal officers of the Army Medical Board, and of eight of the most distinguished civil practitioners in London.' The report of these gentlemen contained much valuable information respecting the disorder, but in respect to the best method of treating it, the instructions appear to have been confined to its early and acute stages.

In the years 1810-12, 'Sir William Adams tendered to the Military Departments, information as to the chronic or third stage of the disorder, and as to the mode of treating it.' The result of these communications was, that several pensioners of the Chelsea Hospital afflicted with blindness were placed under the care of Sir William Adams, and the success of his experiments upon them 'led to the establishment of the Ophthalmic Hospital, at the head of which Sir William Adams was placed.' The Committee consider that the object of this establishment have been attained, and in the report before us, recommend that it be discontinued.

Sir William Adams' claims upon the public are stated to rest upon two grounds.

'First, upon his having been the means of promulgating to the army, and to the public, certain information as to the third or chronic stage of the Ophthalmia and its consequences; namely, that it is the general, if not invariable, effect of the inflammation in the acute stage of the disorder, to produce, in a greater or less degree, what are termed granulations on the inner surface of the eyelid; that these granulations render the patient subject to relapses, and are frequently the cause of blindness;

that during the relapses so happening, the patient is liable to become again infectious, and therefore that these granulations must invariably be looked for, and removed, before the patient can be effectually cured.

‘Secondly, upon his having attended the Ophthalmic Hospital since its first formation, without having hitherto received any remuneration for that duty.

‘Upon the first point your Committee have to report, that the existence of these granulations, and the necessity of removing them, seems to have been known in very early times, and are adverted to in the works of Celsus in the first century, of Paulus of Ægina in the seventh, of Rhases the Arabian in the tenth, and in the work of Sir William Reid in the reign of Queen Anne. That consequently no person in the present day, can claim more than the merit of having revived knowledge which had fallen into neglect. Your Committee do not feel it necessary to pronounce upon the conflicting claims upon this head, or by recommending a parliamentary reward for such revival, to decide to whom the merit properly belongs. They conceive that question is best left to the decision of the profession, and of the public. But they are of opinion that Sir William Adams, has, among others, been greatly instrumental in promulgating this knowledge, and in rendering it generally available.

‘Upon the second point your Committee have to report, that since the first establishment of the Hospital in 1817, Sir William Adams has devoted to the duties arising out of his appointment, a large portion of that time, which to professional men is the source of income; and that inasmuch as the time which he could apply to his private practice has thereby been much curtailed, his professional emolument must also have been proportionally lessened. That he has performed the difficult duties of his appointment with the greatest assiduity and zeal, and that your Committee have been led to form the highest opinion of his skill and abilities as an Oculist.

‘Your Committee taking into consideration all the circumstances of the case, are induced to recommend that the sum of Four Thousand Pounds should be paid to Sir William Adams, as a reward for the services which he has rendered to the public.’

American Medical Literature.

WE notice the following proposals for a new medical work by a physician of high respectability in North Carolina. Our knowledge

of the talents, extensive experience and eminent professional reputation of the author, leave no doubt with us, that the work will be equally creditable to himself and advantageous to the medical public.

Proposals for publishing by Subscription, AN OFFICINAL FORMULARY, or a Collection of the most valuable and approved Extemporaneous Prescriptions used in the modern practice of Physic and Surgery. By JAMES NORCOM, M.D. of North Carolina.

'The principal object of the writer in engaging in this performance is to aid and direct the young practitioner, who, from the present mode of teaching the science of medicine most prevalent in the United States, and from the fashion which obtains in practice in our most respectable cities, has too often to enter upon the active duties of his profession without a competent knowledge of pharmacy, and but little skilled in the art of mixing and compounding medicines.

'The time usually devoted to the study of medicine in our country is entirely too limited to allow a student to give sufficient attention to the details of officinal business; and, even were time not wanting, the aversion young men generally feel to engaging in the drudgery and dirty manipulations of the shop, operates as an insuperable obstacle to the acquisition of this very important branch of a medical education. To remedy some of the evils arising from this source, and to enable the inexperienced Physician to avail himself fully of his resources, by making a safe and judicious application of medicines to the cases that may fall under his observation, this work has been undertaken; which, however humble it may be conceived in its character and pretensions, it is hoped, will not be thought unworthy of the consideration of the learned, nor as unjustly soliciting the attention of the Faculty, and the patronage of the public.

'The work shall be printed in a neat octodecimo volume of from 100 to 150 pages; shall be printed on fine paper, with a good type, and shall be furnished to each subscriber, in boards, at one dollar and fifty cents, or in sheep binding at two dollars; one dollar to be paid at the time of subscribing.'

Magendie's Physiology.—This work, by one of the most distinguished physiologists of the age, has lately been translated from the French, by John Revere, M.D. of Baltimore, formerly of this town. The translation, though not free from faults, and bearing some marks of haste, is on the whole faithfully executed and in a good style. The profession are under obligations to Dr. Revere for the labour he has gone through. The reputation of the work is such as ought to cause it to be sought for by all the medical students of our country. J.

[Communicated.]

TO CORRESPONDENTS.

Communications are on file from Dr. R. Hazeltine, which will appear in the next number.

Case of Tetanus which terminated in recovery. By Dr. John Chandler, of Pembroke, N.H.

The New England Journal

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No. III.

On the occasional prevalence of fever in certain families. By
JAMES JACKSON, M.D. Professor of the Theory and Practice
of Physic in Harvard University.

[Communicated for the New England Journal of Medicine and Surgery.]

IN the investigation of the causes of fever, pathologists have generally had reference to this disease, when epidemic. To the propriety of this I do not object. But in an investigation, attended with so much difficulty as this is, it is proper to notice every fact, which can throw any light upon it. The observations, which I am about to state, are such as have no doubt been noticed by very many physicians; but they are of a kind very seldom, if ever, mentioned in works upon fever.

Sporadic cases of fever are often observed. Occasionally however a number of persons, from three to ten, in the same family, become affected with fever within a short time, while no other persons in the same vicinity have the same disease. This happens at all seasons of the year; but I think it more frequently begins about October and November than at other season. Sometimes one, sometimes two or three members of a family are seized in the beginning, and the others at various periods afterwards. In most instances of this kind the disease is moderate in its first invasion; but it often becomes severe in its subsequent periods. It is apt to be obstinate and long. Hence a family will sometimes have the disease, in some one or more of its members, during several months. The disease presents itself under different characters in the different mem-

bers of the same family ; that is, 1st. it will differ in duration ; 2d. it will be simple fever in one case, while in another it will be combined with inflammation, or congestion in some organ ; —or it will afflict principally the gastric system in one, the brain and nervous system in another, &c. 3d. the members of the family, who do not properly undergo the disease, will have some threatening symptoms of it, viz. the early symptoms of the access of fever, for many days, and finally recover from them either by nature, or by art. It should be added that the disease afflicts both sexes and persons of all ages and habits.

When a family becomes thus affected, it is important to determine the remote cause of the disease, if possible, so as to check its further progress. The first and most natural suggestion perhaps in such a case is, that the disease is contagious. I have carefully examined the facts, in repeated instances, with a view to this point ; and the result is a conviction that the disease is not propagated by contagion in these cases. The circumstances, under which families are placed when thus diseased, require the aid and attention of friends and nurses, and sometimes the removal of the sick. Thus I have seen many necessary experiments, from which I have been able to decide this question. This is shown by the following remarks.

First, the second and third instances of the disease very often occur, not in those, who act as nurses to the first patient, but in those, who have had very little, or no connection with the first patient. The same is true as to the subsequent instances.

Second, I have never known the physician in attendance, nor the occasional visitors, nor even the watchers, who have not lived in the house with the diseased family, to contract the disease.

Third, I have often known the disease to occur in friends and hired nurses, who have gone from other families to attend the sick ;—but this has happened only, when such persons have remained in the house with the diseased persons for two, or three days at least, and generally for a longer time. I state this as a fact simply, for I am aware that alone it does not admit of any positive inference. The nurses in these cases may be affected by contagion, or by some endemic cause. But the bearing of the following observation is much more decided in the question of contagion.

Fourth, If persons, who contract fever in one of these diseased families, are removed during their sickness to other fam-

ilies, or leave the seat of disease and are afterwards affected elsewhere, they do not communicate the disease. I have seen repeated instances of this kind, and never saw one in contradiction to this remark. Some of these instances have been attended with circumstances, which seemed as if calculated on purpose to decide this point.

The facts, which I have mentioned, seem to me to prove that these *family fevers*, if they may be so called, have a local origin. This I consider so certain, that I should always advise families affected in the manner described, to leave their home as soon as possible. The desertion of the house need not be permanent. In one instance it did not prove sufficient to leave the house for three or four weeks. But I presume that three or four months would be sufficient. I have never known the disease occur, in this way, in the same house in two following seasons; and I can recollect only one house, in which the family have been afflicted twice in this way. In that case there was an interval of three or four years; and some years have past since the last attack, though the same family have continued to live in the house.

When fever thus seizes on a single family, one is led to suspect some filth in the neighbourhood. But the most careful inquiry has not discovered to me such a cause. When it is recollected that I speak of a disease confined to one house, in a thick settled town like this, it is obvious that the cause must lie within very narrow limits; and if it were filth, it could not easily be concealed. I have seen the disease oftener in the families of persons in good situations, than among the poor; and in several instances in families distinguished for neatness.

In two instances I have discovered that the house-drain has been imperfectly constructed, and the effluvia from it have come into the house. Possibly this may have had some influence in these instances. But as it is very common to find a house annoyed in this way, and as the evil in the cases above referred to was not remarkable in its degree, I am not disposed to believe that the drain was the cause of the disease.

I have mentioned these *family fevers*, as occurring in neighbourhoods at the time in perfect health. It has happened in several instances that the diseased family has lived in one of a block of houses, while the inhabitants of the other houses in the block have been healthy. But it has also been known to me, during some seasons, that there have been several families in distinct parts of the town affected at the same time in the way I have described. In these cases I have never known any two of the families so affected, to have been in any way connected with each other.

It appears to me that the conclusions to be drawn from the facts, which have been stated, are these; that the remote cause is something strictly local; that it acts only at a very short distance from its source; and that it affects those only, who are exposed to its influence for two or three days together. So far we may go with confidence. If it be asked, whether this cause probably arises from the house, or from the soil under and around it, I should say most probably from the latter. To this opinion I incline the more, because I have as often known this disease to occur in houses comparatively new, and of course clean, as in old tenements. The remote cause may perhaps be the same, which, in some seasons operating more extensively, produces epidemic fever. I could state some circumstances in favour of this suggestion; but I am not disposed to engage in so extensive a subject.

Boston, April 1822.

[To the Editors of the New-England Journal of Medicine and Surgery.]

GENTLEMEN,

IN perusing the review of 'The Pharmacopœia of the United States of America,' published in the number of your Journal for October, 1821. I noticed some opinions therein contained, relating to the composition of certain forms of pills, which I believe to be incorrect and liable to objection. If the following observations on those opinions are entitled to any attention, they are respectfully submitted to your disposal and the consideration of your reviewer. I shall introduce one or two quotations, and subjoin such remarks as I have to offer on the subjects respectively.

1. In speaking of the formula given in the Pharmacopœia for preparing pills of the submuriate of mercury, it is stated, page 308 of the Journal, that 'The soda contained in the soap will decompose the calomel and form a substance which is comparatively inert, and which must, therefore, frequently disappoint the physician.' Now, judging from my own limited knowledge of chemistry, and from an experience in the preparation and effects of pills of various kinds, which I am unwilling to allow to have been *very* limited, and particularly, from my acquaintance with the submuriate of mercury in the form of a pill, similar in its preparation to that directed in the Pharmacopœia of the United States, and which I have extensively employed in practice for several years, I feel warranted in advancing an opinion, that in the foregoing quotation, both the statement and the inference of

the reviewer are unfounded. It is a well known chemical axiom, that *corpora non agunt nisi sint soluta*; and although it be admitted that this axiom is not to be received without some modification and some exceptions, I cannot persuade myself that Castile soap, submuriate of mercury and water, subjected to the usual process for preparing pills, and under the natural temperature of the atmosphere, can suffer any decomposition; for the natural temperature of the atmosphere is, probably, never such as to produce a decomposition in either article without previous solution, nor is it certain that it would even then; and it is certain that there is not a sufficiency of water directed in the formula to dissolve the soap, and the calomel is altogether insoluble in water; and I presume it will hardly be believed that the mechanical agency necessary for preparing the mass and making the pills, is likely to effect a chemical change. Facts are not wanting to prove, that there are many substances between which there subsists a strong chemical affinity, and which, under certain circumstances of heat and moisture, are very liable to undergo a decomposition; but which, independent of those circumstances, would perhaps forever remain undecomposed. I pretend to have made no experiments with a view to ascertain the chemical condition of Castile soap, submuriate of mercury, and water, in a combined mass, suitable for making pills; but I have, in my practice, for more than fifteen years, made a constant use of a pill prepared nearly similar to the formula in the Pharmacopœia of the United States, and I can assure your reviewer that I never found it wanting in activity. The calomel pill which I have employed, is prepared as follows, viz. calomel, three parts; Castile soap, one part; common water sufficient, with *much beating* of the ingredients in a mortar, to reduce them to a proper consistence for making into pills. The soap ought to be shaved with a knife, and broken in the mortar, as fine as possible, and then to be triturated together with the calomel, *ad libitum*, before the water is added. But little water is requisite to give the mass a proper consistence; and it is best to introduce it by little and little, beating diligently in the mean time and afterwards, till the mass becomes perfectly homogenous and uniform. Then, with a little flour, to prevent the mass from adhering to the fingers, it may be made into pills. I have found a convenience in making these pills of different sizes, from four to eight grains, in order that they may be adapted to different occasions and intentions of medical prescription. The mass *pills* very easily; and the pills retain their form very well. They ought to be exposed to the air a few days, that they may dry before they are put into bottles and boxes. Whatever may be the che-

mical condition of the articles thus combined, I can conceive of no form of pill in which it may be desirable to prescribe calomel with a view to its cathartic operation, more convenient; and that it is possessed of sufficient activity, no one, I presume, will entertain the least doubt, after a trial. Two or three of these pills, containing perhaps six or nine grains of the calomel, will, not unfrequently, excite vomiting, and occasionally manifest their power in the salivary glands. Although they may sometimes excite vomiting, by reason of their gravity and compact form, I believe they are never, or rarely, ejected from the stomach; hence, their obvious utility, with or without opium, according to circumstances, in certain diseases of the intestinal canal, where cathartics are advisable, as in spasmodic colic and ileus.* I never administered these pills alone as a cathartic, but accompany, or follow them, in an hour or two, with some other cathartic medicine, as castor oil, an infusion of senna, manna, and coriander seeds, with or without sulphate of soda, or a dose of the latter article, or some other laxative neutral salt alone. In cases of disease of no particular urgency, and where a mercurial cathartic is advisable, I often give one of these pills over night, and follow it next morning by some of the cathartic medicines just named. On the whole, I do not believe the whole range of pharmacy affords a better calomel pill for a cathartic, than the one I have been describing.

Si quid novisti rectius istis,
Candidus imperti; si non, his utere mecum.—HOR.

2. The strictures of your reviewer on the formula for the 'Compound pills of the sulphate of iron' and the 'compound pills of Jalap' of the National Pharmacopœia, are subject to the same animadversions that have been made in regard to the formulæ for the calomel pill. His statements respecting the ingredients and their proportions to each other, are undoubtedly correct; but his inferences in regard to their chemical decomposition, are, it is believed, altogether gratuitous and without proof. No one article in either formula, is brought to a state necessary for decomposition, neither as it respects heat or moisture; no increased heat is directed to be applied to the ingredients, and there is no solution of them, notwithstanding the *obtrusive* question of your reviewer.† Besides, I have repeatedly prepared

* In some conversation with the venerable President of the Massachusetts Medical Society, respecting the composition of these pills, he was inclined to believe that the soap might 'soften' the qualities of the calomel and render it milder.

† I know it is said that the addition of 'the smallest possible quantity of water, to certain substances in a state of mixture is sufficient to produce a chemical

and employed in my practice pills similar to both those formulæ, and never discovered any reason to suspect any chemical change : on the contrary, if the activity of the pills were to be considered a proof of their having undergone no decomposition, there was not the least ground to suspect it.

3. Your reviewer remarks, that 'The committee seem to have a strong regard for Castile soap as a medium of union in the formation of pills :' And well they may have, in my opinion ; and it evinces that they were not unacquainted with the utility of soap for that purpose, or with the difficulty, in some cases, of forming a mass that will *pill* with facility without it. There are certain of the resins and gum-resins, which, with the addition of some appropriate liquid, *pill* very easily without soap ; but I believe such preparations would be improved by the addition of that article, not only as a mean of facilitating the preparation of the mass and the operation of *pill*ing, but as favouring the solution of some of those substances when taken into the stomach. I have sometimes known persons complain of a sense of oppression at the stomach, after having swallowed only two or three pills of an ordinary size, composed of asafœtida, galbanum, &c. without soap ; but I never heard that complaint when soap was an ingredient in the composition. It is presumed 'the Committee' will not pretend to an original discovery of the utility of soap 'as a medium of union in the formation of pills ;' for the information was long ago communicated to the public in some of the older Dispensatories ; and if it be subject to exceptions, as it undoubtedly is, in combination with some of the metallic and earthy salts, it is believed those exceptions are few, and readily anticipated by such persons as are extensively acquainted with the preparation of pills, and possessed of a competent knowledge of chemistry.

With respect to the 'National Pharmacopœia' itself, although it be digressing from the immediate object of this communication, I will take the liberty briefly to say, that if its defects have already been exposed with an unsparing hand, it is presumed no one will pretend there is not just occasion for criticism. To me, however, one of its defects, and, in my estimation, not one of the least, appears to be the conciseness of its Indexes. It seems it was thought proper by those who prepared the Pharmacopœia for publication, to leave out of the Indexes

change, and that this change is to be attributed simply to a solution of one of the articles by the water. An instance of this is given in the admixture of a little water to tin foil and the nitrate of copper. But is the inference just, that the change is effected by the mere solution of the nitrate of copper in the water ? Will it be pretended that the change that takes place in a mixture of iron filings, sulphur, and water, is owing to a solution of either of the articles in the water ? I presume not.

all the names, officinal, scientific, and systematic, of all the articles of both lists of the *Materia Medica*, so that it is impossible for one who is not an adept in the study of that branch of medicine, and of course extensively acquainted with its nomenclature, to find whether any particular article of medicine is contained in said lists or not. If it be required, for instance, to ascertain whether the 'Balsam of Peru,' or the 'Arrowroot' be retained in the list of *Materia Medica* adopted in 'The Pharmacopœia of the United States of America,' the inquirer may look in vain to the Indexes of that work to satisfy his inquiry, and in vain also to the 'lists' of *Materia Medica*, unless he should accidentally meet, in his researches, with the names themselves, or know and recollect that those articles are also designated by the terms 'MYROXYLON' and 'MARANTA,' and look at once for those terms. If one wishes to know whether 'Arsenic' is contained in the said 'lists,' he cannot satisfy himself by looking at either Index; but he must already know, that 'acidum arseniosum' is adopted as the officinal and scientific name of that article, and that he must turn and look for that in the 'primary list.' But these are not the greatest inconveniences of the omission of which I am speaking, to the student especially. What will the student find out by the 'National Pharmacopœia,' respecting 'Amomum repens,' 'Bonplandia trifoliata,' 'Croton eleutheria,' 'Copiafera* officinalis,' 'Ictodes foetidus,' 'Symplocarpus foetidus,' 'Quercus cerris,' and a multitude of other scientific or systematic names of articles contained in the primary list of that work, if he were to meet them in any other medical books? Where will he find in the same Pharmacopœia, the formulæ for preparing the 'cerated glass of Antimony,' the 'golden sulphur of antimony,' 'Liquid Magnesia,' 'White oxide of Bismuth,' and several other compositions, unless he knows at the same time and recollects their scientific names, and searches for them: But, 'a truce to censure;' *ubi plura nitent*, &c. As a *first* essay, the American Pharmacopœia will be considered honourable to the gentlemen concerned in its publication; and it is much to be doubted whether the same number of other medical men in the United States, would have produced a more perfect work of the kind. *We are not apt to perceive our own oversights till they are pointed out to us by others*: and with a humiliating conviction of this truth, I take leave to subscribe myself,

Gentlemen, your most obedient and humble servant,

RICHARD HAZELTINE.

Lynn, March 20, 1822.

* 'Copiafera' is undoubtedly a typographical error.

NOTE BY THE EDITORS.

IN the first part of the preceding paper, Dr. Hazeltine, in commenting upon our observations on certain formulæ of the national pharmacopœia, considers our opinions as 'incorrect,' 'unfounded,' 'liable to objections,' 'gratuitous and without proof.' He likewise thinks our questions 'obtrusive,' and that we are quite in the wrong in our inferences with regard to the mutual action of soap and metallic salts. We shall endeavour to convince him that we were right.

1. The only difference between castile and hard white soap consists in the presence in the former of a very small proportion of red oxide of iron. If we substitute for the former, therefore, an equal quantity of windsor soap, the changes which take place on mixing it with calomel may be more readily observed. If such a mass, in the proportions directed by the pharmacopœia in the preparation of the *Pil: Sub-mur. Hydrarg.* be made up with the *smallest possible quantity of water*, and be allowed to remain at rest for some time, it will appear to have experienced no change, but where it is divided, the internal parts will exhibit a shade of blue, which increases in deepness, the longer the mass has been formed. It will at length assume the colour of the mild mercurial ointment. This change of colour we infer to be owing to the gradual decomposition of the calomel, and the formation of protoxide of mercury.

2. If a mass of calomel and windsor soap, in the same proportions as the above, be introduced as soon as formed into a glass jar filled with dry mercury and standing in the mercurial trough, a quantity of gas will in the course of a few days be extricated, which on examination may be proved to consist of carbonic acid. Hard soap, after it has been exposed to the air for some time, contains some carbonate of soda, and from this experiment we conclude that the calomel and carbonate of soda react upon each other, and that the results are protoxide of mercury, muriate of soda, and carbonic acid gas.

3. When the calomel pill formed with soap is taken into the stomach, it meets with liquids by which one portion at least must be dissolved, and while dissolving, as it must be in contact with the calomel, we see no good reason why the latter should not be decomposed. The opinion of Dr. Fisher is therefore in all probability correct, that 'soap softens the qualities of the calomel;' which it does by converting the calomel into protoxide of mercury. Hence also we may account for

the circumstance that, in order to obtain a cathartic effect, Dr. Hazeltine is in the habit of following up these pills with some more active purgative.

4. With regard to the *compound pill of sulphate of iron*, if we substitute windsor for castile soap, and leave out the rhubarb, the last of which if it have any chemical effect, must aid in the decomposition of the sulphate, it will be found that a portion of the salt on mixing them, will be immediately decomposed, and the whole mass will assume a reddish brown colour. If, after a few days, this mass be broken, minute and brilliant crystals may be seen, which in the course of a few hours effloresce and become a white powder; proving these crystals to be sulphate of soda. The whole of the sulphate it is true will not be decomposed, because the quantity of soap directed is not sufficiently large, but a considerable part of it must be, and the medicinal properties of the pill will be proportionally altered. If castile soap be employed, these changes cannot be observed; yet there can be no essential difference in the influence of the two kinds of soap, as 100 parts of castile soap do not contain more than 1 part, if so much, of red oxide of iron.

5. It is probable that something of the same kind may ensue on mixing the ingredients of the *compound pill of jalap*, but we cannot speak confidently on this point, not having made any experiments to determine it. The formula does not appear to be a good one; a considerable mass is directed to be made up, the qualities of which it is very probable must be altered in no long time, as the tartrate of antimony is very liable to decomposition, and in this pill, it is placed in circumstances very favourable to the separation of its proximate elements.

From the facts above stated, we must still adhere to the opinions expressed in the review of the pharmacopœia, which we are sorry to find have so much annoyed our friend Dr. Hazeltine.

We agree with Dr. H. that soap is in many cases a very good substance, and may be used with advantage in the composition of pills of various kinds; but it ought not generally if ever to be employed in conjunction with metallic salts, particularly if water be required, because, although '*the mass pills well,*' we may be deceived in what it contains, and find neither the ingredients nor the medicinal properties we expect.

Some remarks on Delirium Vigilans; commonly called 'Delirium Tremens,' 'Mania à Potu' or 'Mania à Temulentia.'

BY GEORGE HAYWARD, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

FROM the known causes of this disease and the frequency of its occurrence at the present day, there can I think be no doubt that it has long existed, and yet it has certainly never been distinctly and accurately described till within a very few years. It is probable that it has been most frequently mistaken for phrenitis or some other form of mental alienation, though one would think its diagnostic symptoms were sufficiently striking to enable an accurate observer to perceive the difference. Dr. Armstrong informs us that a pamphlet was published in England on this subject by a Dr. Pearson in 1801, which has never I believe reached this country, and this is probably the first publication on this disease that ever appeared. I know *some pretend that it was previously known and described in Germany under the name of *Delirium Tremens*, but I can find no authority for this opinion. On the contrary, Dr. Sutton who wrote in 1813, considers himself as the author of that name, and apologizes for its imperfection, and Dr. Armstrong speaks of Dr. Sutton as having been the first to propose it. Be that as it may, the name is far from being such a one as could be wished, as it refers to no symptom which is constant or peculiar to this form of insanity, for many cases of this disease occur without tremors, as has been noticed by Armstrong and others.

Two other names have been proposed in this country, viz. *Mania à Potu* and *Mania à Temulentia*. To these there appears to me to be two objections. 1st, *Mania* is usually considered as the chronic form of mental alienation, whereas this disease is of an acute character; and 2dly, neither of them will include every case of this species of delirium, as it sometimes arises from the immoderate use of opium as well as of ardent spirits, and besides, the specific name is derived from its supposed cause and not from any accompanying symptom.

It does not appear then that any of the names which have been proposed are so precise and significant as could be wished, and yet this disease seems to have more of a peculiar character than almost any other with which we are acquainted. *Delirium* and watchfulness united are its two characteristic

* Vide in Chapman's Journal, No. 6, Feb. 1822, an article by Dr. Staughton.

symptoms, and are sufficient to distinguish it from every other morbid affection. It has been remarked by the Editor of the Philadelphia Journal of Medical and Physical Sciences, 'that sleep is the *sine qua non*, in the cure of this species of mania, and when effected all difficulty is at an end.' Though this is perhaps speaking rather too strongly, as patients sometimes die, after sleep has been procured, yet it is no doubt true in most instances, and though sleep does not always effect a cure, no cure takes place without previous sleep. Why might not then some name be adopted, which would express this peculiar combination of watchfulness with delirium, which distinguishes it from every other species of insanity, and every other variety of disease, and which as far as I know always exists? Why might not the term *Delirium Vigilans* be substituted for those now in use? Would it not convey a more accurate idea of the disease, and be liable to fewer objections than any other that has been proposed?

It is not my intention however to enter fully into this subject, or give a detailed account of the symptoms, but confine myself to a few remarks upon the seat and treatment of the disease, upon both of which points there is considerable diversity of opinion. Among those who believe the brain to be the affected organ, there are some who consider it to be an inflammation, and others a venous congestion of this viscus. This latter opinion is favoured by the habits of those who are affected, as it is well known that the venous system becomes extremely debilitated in drunkards, and that they are liable to venous hemorrhages, particularly from the nose. This I have seen in more than one instance in those who have afterwards had this disease. Besides, there is never during the progress of it an intolerance of light, as there is in inflammation of the brain and its membranes, and the suffusion of the eyes which takes place is the effect only of irritation from the want of sleep, and does not come on in the commencement of the disease, as it would if it were from an inflammatory action extending along the membrane covering the optic nerve.

Some support also, I think, is given to this opinion by the circumstance that sleep most usually restores the patient to health, no doubt by restoring the equilibrium between the arterial and venous systems, though we know not how this is effected. But if active inflammation was going on in the brain, is it probable that it would be suspended or removed by sleep? Do we not know on the contrary that sleep may be procured in phrenitis, and the progress of the inflammatory action continue unchecked? And if this delirium arose from disease of the stomach, as

has been recently suggested, would not emetics, which certainly do sometimes cure it, do it without first producing sleep? Is not this a strong presumptive proof that the proximate cause is in the brain, and that the benefit derived from emetics is owing to the sympathetic action of the stomach upon the brain, rather than to any direct effect which they have upon the stomach itself? Dr. Armstrong informs us, that in the only two cases which he examined after death, 'slight congestions were found in the brain and liver, while the other viscera appeared natural.' I had an opportunity a short time since, of examining the brain of a person who died of this disease in four days from the attack. He was under the care of a medical friend, and I only saw him the day before his death. The examination was made in ten hours after his decease. The bloodvessels of the brain and its membranes were turgid with blood and the sinuses of the dura mater were loaded. Upon removing this membrane, a considerable quantity of serum was discovered over the whole surface of the brain between the tunica arachnoides and the pia mater, and after cutting into the ventricles, they were found to contain a large quantity of this fluid. It had probably been sometime effused, as the plexus choroides was almost white, as if it had been macerated in water. Some adhesions were noticed between the cranium and the dura mater, and between this membrane and the brain. But these were neither strong nor numerous. The attack commenced in this case with a fit, the symptoms were extremely violent till the fourth day, when the patient became comatose and died.

In some other dissections which have come to my knowledge, similar appearances have been noticed, the brain has in every instance been affected, and to an extent sufficient apparently to account for the symptoms.

The facts connected with this disease, as well as its symptoms and appearances after death, warrant us I think in believing, that a venous congestion in the brain is the cause of all the difficulty, and that if it is not removed in the early stages an effusion of serum takes place, which is usually in such a quantity as to produce coma or apoplexy, and destroy the patient. A slight degree of pressure upon the brain will very often destroy life, when it comes on suddenly, while this organ will bear a very considerable degree of it if gradually produced. This remark has frequently been made by those who have examined patients that have died of apoplexy, in whose brains oftentimes a very inconsiderable effusion only has been found. In those who die after sleep has been procured in the disease of which we are treating, the effusion has probably commenced and sleep cannot check it.

The coma that comes on in many cases at the latter end of this disease, and continues gradually increasing till it destroys life, is the result in all probability of the gradual effusion of serum, and death is the effect of that degree of accumulation of it which the brain is unable to bear.

It appears to be a very general opinion that this disease requires a peculiar mode of treatment, and one wholly different from that which the symptoms would naturally suggest. This belief is carried to a much greater extent in this country than in Great Britain, if we may judge from the writings of Drs. Sutton and Armstrong, who, though they were the first to introduce opium, did not rely solely upon it, but frequently employed even depletive remedies. In all cases they recommend cathartics and in some venesection previous to the exhibition of opium, particularly in the first attacks of young and robust patients. Though they consider opium of the highest importance, they do not employ it to the exclusion of every other remedy, but are guided in great measure in the treatment by the symptoms that are presented, and by the state and habits of the patient. The same course that is calculated to remove the low delirium of an old, habitual and enfeebled drunkard, is surely not likely to overcome the furious insanity of a young plethoric man, who is affected for the first time, after the intemperate use of ardent spirits to which he has not been long addicted. Yet many physicians are so well satisfied with the efficacy of opium, that they prescribe it alone in every stage and variety of this disease, without regard to the age or habits of the patient or the nature of the attack, and rely upon it with as much certainty as upon mercury in syphilis, considering it in fact as a specific remedy. Others have lately trusted entirely to emetics, and have felt nearly the same degree of confidence in them, that the others have in opium. The great object is to procure sleep, and it is obvious that neither of these remedies alone is always calculated to produce it. The stomach and bowels should in every case, I think, be evacuated in the commencement of the disease, and bloodletting employed to a moderate extent, if the state of the pulse, the period of the attack, and the age and habits of the patient will warrant it. That it may be in many instances safely resorted to, and that it is in some highly important and necessary can be inferred in my opinion from the following abstract of all the cases reported by Dr. Sutton, who is the great advocate of opium, and by no means friendly to bloodletting, to the extent which many others might probably think warrantable. It should be observed that in many of these cases Dr. Sutton was not called in the first instance, which accounts for so many of the patients having been bled.

1st Case. The patient was bled and did well. The blood was buffy.

2d Case. The patient was not bled and died.

3d Case. The patient's 'nose had bled freely' after the delirium commenced, and he recovered.

4th Case. 'The treatment on the two first days had been conducted on the antiphlogistic and depleting plan to some extent,' opium was afterwards administered and the patient recovered.

5th Case. 'The patient was bled by cupping on the second day, saline purgatives were administered during the disease and opium given freely, and the patient recovered.'

6th Case. The patient 'had been bled largely' previous to Dr. Sutton's seeing him, then opium was given to a great extent and the patient recovered.

7th Case. The patient, aged sixty, was not bled, opium was administered and the cordial treatment pursued, he recovered, but 'about a year from this attack died suddenly.'

8th Case. The patient was a female, the disease came on the sixth day of scarlet fever, was treated with opium in large doses and she recovered.

9th Case. The patient 'had been confined for a fortnight with fever' when the disease commenced, was low and exhausted, took opium and recovered.

10th Case. The patient had received a wound on his head, not supposed to have had any connexion with his disease, treated with opium, but not bled and died. On opening his head, 'a considerable quantity of serous discharge' took place, when the dura mater was ruptured; 'on removing this membrane the bloodvessels were observed to be turgid with blood.'

11th Case. The patient had a fit at the commencement of the attack, twelve ounces of blood were taken, which was buffy, laudanum afterwards administered and he recovered.

12th Case. The patient was the same as in case 5th; the disease commenced with slight apoplexy, he 'was bled and the bowels were opened.' On the fourth day from the attack he had another fit, ten ounces of blood were taken, opium was administered and he recovered. In a note to this case Dr. S. speaks of a patient who had a slight fit of apoplexy and hemiplegia followed by delirium tremens, who was not bled, but was treated by opium and died.

13th Case. The patient was a female, who was very intemperate, her disease commenced with coma; she was twice bled, and cups and leeches were applied and opium was afterwards administered; from this treatment 'the patient became collect-

ed, passed her nights comfortably, and got into a state of convalescence. She lived many weeks after this period.'

14th Case. The same patient as in case 3d was bled, cupped and blistered and took opium, 'but continued some months in a deranged state and then recovered.

15th Case. The patient was relieved by opium without bleeding, though not entirely cured.

16th Case. The disease commenced with a fit, the patient was bled largely, afterwards treated with opium and recovered.

From this statement it appears that ten of this number were bled and treated after the antiphlogistic plan, and all of them recovered. And of the remaining seven including the one referred to in the note to case 12th, who were not bled, four died and three only recovered.

In confirmation of the correctness of the practice pursued in these cases, if any confirmation were necessary, I can say from my own experience, that in the worst cases that ever came under my care the patients were bled, and some of them to a considerable extent, and recovered. And I am fully persuaded that the benefit which has been derived from digitalis and colchicum has been by diminishing the vascular action, and of course preventing venous congestion and its consequences. A combination of calomel and opium in small and frequent doses I have found highly beneficial in all cases, and I believe that the first of these medicines, from its good effects in the congestion of other organs, is peculiarly well adapted to this disease. Opium appears to be most serviceable after depletion, when it should be immediately administered, and a small quantity then will frequently have more effect than a much larger one at another time. It is no doubt however oftentimes necessary to give it to great extent, and the danger of this practice is much lessened if evacuations have preceded its administration. Emetics are unquestionably useful in very many cases, particularly in those which seem to be most benefitted by the cordial plan of treatment. Their action is not confined to the evacuation of the stomach, but they often procure sleep by the influence they exert indirectly upon the brain. I have not found blisters to the head, neck or other parts of any use, and have not employed them of late in any instance. Their inutility has been noticed by almost every writer on the disease, and this fact is an additional proof that this morbid affection is not of an inflammatory nature. The patients usually require light, but nutritious food, which the stomach most generally bears very well. In some cases it is necessary to give wine and water, wine whey or some other gentle stimulant, particularly if the circulation is languid and feeble.

By thus varying the treatment according to circumstances, a large majority of cases do well, but when the patient has had repeated attacks, his chance of recovery under any mode of treatment is very much diminished. I shall conclude these remarks by relating a case, in which the method I have recommended was pursued with the best effects; it is selected from a number in which a similar course was adopted, but I have chosen it, as it was among the most severe. It will be seen that opium was administered to a great extent, but not until after depleting means had been employed.

CASE.

I was called to visit a mechanic on Friday the 19th of September, 1818. I found him labouring under the common symptoms of incipient fever; an emetic with calomel was administered which operated freely both on the stomach and bowels, and the patient felt himself the next day entirely relieved. He did not however appear to me to be so well as he thought himself; his heat to be sure was diminished, his tongue moist and cleaner and his appetite improved, still his pulse was extremely irregular, and he had not slept since the night of the 18th. He was directed to take a solution of the tartrate of antimony and confine himself to gruel through the day. On Sunday the following day, he was every way better, excepting that he had had no sleep. As his bowels were open, it did not appear necessary to give him any cathartic medicines. I therefore advised that he should be kept perfectly still, live upon light broth, and take one grain of opium at bed time. I did not see him on Monday, but was sent for at six o'clock on Tuesday morning. He had had no sleep since his attack; his pulse was full, hard and irregular, as to frequency, but rarely less than 120, often more, and sometimes they could not be counted. His whole system was agitated, he was attentive to every thing that was said, jealous if any one whispered, and extremely impatient of contradiction. Nothing vexed him more than the suspicion that he was delirious, and he constantly declared that he never felt better in his life. His skin was hot and dry, but his appetite was good. I took from him 16 ounces of blood, and gave him xiv. grs. of jalap and vi. of calomel. At 2 o'clock P. M. his delirium was more evident and his heat greater. I took from him 16 ounces more blood, applied a blister to the back of his neck and sinapisms to his feet. At 5 o'clock I found him more violent than before: he had pulled the bandage from his arm, and lost about a pint of blood as well as I could judge. His powder had operated once;

I then directed for him a pill composed of half a grain of calomel and a quarter of a grain of opium to be taken every two hours. Wednesday morning he was in no way relieved, he had had no sleep and his physic had not operated again. I then gave him a scruple of rhubarb and eight grains of calomel. During the day he was very wild, he seemed to be in constant fear, at one time of birds flying over his head, at another of fish hooks, with which he said every thing around him was covered. I saw him several times in the course of the day; he was easily managed by kind and gentle treatment, and mild and persuasive language; but all attempts at violent restraint, and sudden contradiction made him almost uncontrollable. As nothing had passed his bowels since the operation of the jalap, he began taking at 7 o'clock in the evening a tablespoonful of a decoction of senna, manna, soluble tartar and anise seeds. This was directed to be given every half hour till it operated; and as he had vomited several times after taking the pills, they were to be omitted until his bowels were opened. I then wrote for some pills consisting of half a gr. of opium and half a gr. of calomel to be given every half hour. On Thursday morning at 7 o'clock I found to my great disappointment, that though his bowels were open at 11 o'clock he had taken no pills, as the men who were with him were afraid of increasing his delirium. In their management of him during the night they had resorted wholly to force, and he was now more violent than at any time I had seen him. While I was there he had a copious evacuation from his bowels. I immediately gave him four grains of opium and two grains of calomel, and directed the pill to be given every half hour until I saw him again. In three hours I visited him, there was no alteration, and I gave him two grains of opium. He had now been seven days and nights without sleep, and to this circumstance it was in great measure owing no doubt, that his disease seemed to be constantly increasing. There was a great incoherence in his ideas, a peculiar zeal and earnestness in his manner as if engaged in business of the utmost importance; when roused from this state however he answered the questions that were put to him with great accuracy. At 1 o'clock P. M. he was put into a warm bath at 94° of Fahrenheit's Thermometer; he seemed pleased with it, and upon first coming out much refreshed, shortly after he had two or three copious evacuations from the bowels. At 3 o'clock P. M. he was more violent than he had been at any time, he ceased to know those around him, and complained of excessive thirst, the effect probably of the opium. At 5 o'clock two grs. of opium were given in addition to the pills, still he had not the slightest symptom of drowsiness. I gave him at 7 o'clock

100 drops of laudanum, and directed it to be repeated every two hours until I saw him again, if it did not produce sleep. Immediately after taking it he became excessively violent, but in three quarters of an hour sunk into a profound sleep, from which he was occasionally roused during the night to take small quantities of gruel and beef tea. When awake he was calm and rational, and slept quietly eleven hours. For several succeeding nights, however, he could not obtain sleep without the use of laudanum; and it was frequently necessary to give him as many as 300 drops before this could be procured. He has never had the disease since, but has continued to enjoy his health perfectly well to the present time.

April, 1822.

Case of Tetanus which terminated in recovery. By JOHN CHANDLER, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

AMONG the variety of diseases incident to mankind, few are involved in more obscurity as to their pathology, and perhaps no one has more generally baffled the skill of the physician and proved more fatal, than Tetanus. This fact must impress the mind of every student with the conviction that very much remains to be acquired in this department of Medicine.—To those who have never seen the complaint, the systems already written, and the methods of treatment proposed and described by medical authors, may be satisfactory; but to such as have watched the various changes in this disease at the bedside of the unfortunate sufferer, it is very obvious that we are not yet acquainted with any one medicine or application, upon which, from uniform experience, we can rely; nor are we possessed of any remedy that can be exhibited with confidence in its power to afford relief. The two varieties of the disease described by systematic writers, are those which arise from a puncture or *lesion* of a nerve, or that which takes place without any such exciting cause, but has arisen from exposure to violent cold, &c. The latter of these, which may be termed idiopathic Tetanus, has more generally yielded to *appropriate* remedies than the former.—That depending on local injury usually continues, notwithstanding the utmost efforts of medical skill, to increase its effects on the nervous system, until life is exhausted, and nature sinks. The happy issue of the following case, while it affords the highest satisfaction to the feelings of humanity, will I think, be deemed a sufficient apology for making the same public.

Tuesday, December 4th, 1821, Lieut. John Whitehouse, a remarkable strong, muscular man, received a slight injury in the right index finger, which separated the integuments, and partially divided the tendon. The day following, his business was such as to make it necessary that his hands should be continually wet, being frequently immersed in hot and cold water, and exposed to a cold atmosphere. The next day (Thursday) he felt considerable pain in his finger and arm, but not to such a degree as to induce him to keep house.—In the latter part of the day, however, finding the pain increasing, he was induced to retire early in the evening to bed, but could find no rest.—At eight o'clock (evening) the pain began rapidly to increase in the arm of the afflicted side, but no complaint was made, till nine, when the pain became intolerable, extending up the arm, accompanied with rigidity of the masseter muscles.—Supposing himself going into a fit, he sprung out of bed, and with difficulty forced the handle of a knife between his teeth. The morbid impression from the wound now rapidly extended its influence through the whole system. The muscles about the face and neck were in constant and rigid contraction, while the muscles surrounding the chest, loins and limbs were occasionally relaxed, producing various degrees of contortion. In this stage of the complaint I visited the patient, and never did I witness a more distressing scene; nor ever did I more feelingly deplore my own impotency, or that of the healing art.—Immediately I perceived that there was no time to loose, and that much might be done; although I had not the least prospect of rescuing my distressed patient from the jaws of death—I directed a warm bath to be prepared with all possible dispatch, and in the mean time, I let blood very freely from the arm, and gave laudanum and brandy as freely as the stomach would bear. The bath produced considerable amelioration of the spasms, but the jaws continued firmly fixed.—Deglutition was extremely difficult, and every attempt to swallow increased the spasms—A part of the medicines was of course ejected, which rendered it impossible to ascertain the precise quantity taken.—I therefore directed that brandy, and occasionally brandy and water be given for common drink, and that laudanum be given every half hour in such quantity as would stay on the stomach. I likewise directed that opium and brandy be freely and frequently applied to the abdomen and spine, and that the wound be dressed with lint wet with *spts. terebinth.* and a soft poultice over the whole.—The warm bath was repeated, but without any sensible relief.—The spasms, however, in the course of three hours became sensibly less frequent and violent, and appeared to be confined to the chest,

neck and face.—At this time, my friend, Doctor Chadbourne of Concord, met me in consultation; and the result was, to make a complete division of the tendon, and persevere in the course I had adopted with the addition of ten drops of Fowler's solution to each dose of laudanum.—The next day but little change for the better—Injections are forced away with great violence, but produce no fecal discharge.—The difficulty of swallowing rather abated, but the irritability of the stomach increases. There being but little or no discharge from the wound, I applied cantharides to it, and to the back of the hand, which produced considerable inflammation, and in a short time, by the application of poultices, the wound discharged freely.—Cantharides was likewise applied to the pit of the stomach, as the irritability of this organ had now become very great. Fowler's solution was discontinued, and solution of opium was given per anum, and the other medicines continued.—The next day (Saturday) there appeared to be no very great change for the better, although the spasms rather abated, but the irritability of the stomach was so much increased, as to reject almost every thing received into it. The jaws continued to be firmly fixed, and the patient has not yet had sleep. Madeira wine was now given instead of brandy and water, and opium in solution continued externally.—The spasms recur with less violence and frequency. The propriety of the cold bath occurred, and feeling extremely anxious for my patient, I met Dr. C. again in consultation at six in the evening, when it was concluded to use the cold affusion immediately.—Two pails of cold ice water in which salt had been dissolved were poured over the naked body of the patient, and then he was immediately wrapped in warm blankets and put to bed. Perspiration soon commenced, and sleep immediately succeeded.—In the course of about half an hour he awoke with the jaws so much relaxed as to enable him to speak distinctly.—I now gave opium more sparingly, intending to repeat the cold affusion should the spasms return. I also gave pills of calomel every two hours, till free evacuations were procured, and then gave wine and brandy as the stomach would bear. He rested comfortably during the night—The progress of the disease appeared evidently checked, and hopes of recovery were now indulged.—From this time convalescence was rapid, and his recovery under a mild course of tonics was complete.—The above case I conceive to be a very interesting one.—The access of the disease after the injury was much sooner than usual, and appeared to be making progress to a fatal issue with much greater rapidity than in common cases of the kind. As the whole routine of remedies, most relied on by those experienced in the

disease were had recourse to, it may be improper to assign the cure to any particular one ; although the cold affusion appeared to have the greatest effect in severing the chain of morbid actions, which we had every reason to believe would soon have terminated the existence of the patient. I do not feel disposed to attempt an explanation of the pathology of a disease which is left involved in so much obscurity and doubt by the first medical characters. This disease, like every other which usually proves fatal, has much excited the attention of physicians, and led to the adoption of such a diversified round of remedies, as to have diminished the confidence of the faculty in respect to the practice, which ought to be adopted in the case.—Fortunately for the profession and mankind, it is a disease of comparatively uncommon occurrence, and few physicians, very few can say that they are experienced in it.—Should the treatment of another case fall to my lot, I should have more confidence in the application of cold water than any other remedy ; but still I should not use it to the exclusion of all others.

Pembroke, Feb. 1822.

Operations for Cataract. By SAMUEL W. WYMAN, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

P. B. of Ipswich, a man of about 54 years of age, of a good constitution, had been blind with cataracts between three and four years : the iris in both eyes moved very freely in light of different intensity, indicating a perfect sensibility of the retina : no object was distinguishable by either eye, in any degree of light ; the opaque lens seemed to obstruct every direct ray, even when the pupils were dilated to their greatest extent. The most that he could discern was the difference between night and day, and objects that were very bright and luminous, but not the forms of any of them.

On the 15th of July, 1819, the operation was performed for the depression of the opaque lens in the left eye. With the cataract-needle of Sir William Adams, introduced, after the usual manner, through the sclerotica, the capsule of the lens was lacerated, the opaque lens detached from its situation and very readily depressed in the vitreous humour. Immediately on the depression of it some light flocculi arose into the area of the pupil and a few of them passed into the anterior chamber. The flash of bright light which immediately burst in, on the removal of the cataract, occasioned considerable faintness,

which was soon relieved and did not recur. In about three or four hours after the operation, pain in the head and eye began and increased to a considerable degree of violence. An opiate was administered at bed-time, he however obtained but little sleep. A strict antiphlogistic treatment was adopted as well before as subsequent to the operation.

July 16th, eyelids somewhat swollen; considerable heat in and around them; great relief obtained by bathing them occasionally in a saturnine lotion. Pain somewhat moderated. Antimonials exhibited at intervals of three or four hours.

17th. Nothing remaining but a sense of uneasiness in the head and eye: eye very sensible to the light.

18th. Eye much in the same state except that the sensibility to light is not so great.

19th. I examined the eye in a moderate light; the conjunctiva was somewhat red in the vicinity of the wound of the sclerotica. From this time the inflammation gradually subsided and the eye was, each succeeding day, better able to bear an increase of light.

On the 14th or 15th day after the operation, the eye was able to bear the full light. The opaque lens was just perceptible at the lower part of the eye, but so situated as not to obstruct any of the rays of light.

On the 19th of August, (5 weeks after I performed the operation on the left eye,) I operated on the right eye. The cataract was of a firm texture and depressed in a similar manner and as readily as that in the left eye.

During the rest of this day the pain was but slight; toward night it attacked the eye and head with considerable violence and continued unremitted until toward morning, when it almost entirely subsided: in the morning he took an opiate and had a few hours' rest in the forenoon, by which he was greatly refreshed. Treatment similar to that of the former.

August 24th. Eye very sensible, he has not been able to open it, in light sufficient to examine it, until to day. The opaque crystalline is perceptible at the external angle of the eye. A slight redness of the conjunctiva still remains. The pain, after this operation, is much less than after the former.

September 3d. He is now able to bear the full light, without inconvenience; he is however very cautious about exposing his eyes to a very strong light. To day he made a trial of glasses of $2\frac{1}{2}$ and 3 inches focus, with the latter he could see to read, very readily small print, at the distance of 6 or 7 inches.

There is some difference in the vision of the two eyes, for with the left the perception of small objects is quite indistinct; this is probably owing to the sensibility of the retina being somewhat impaired, for there is no appearance of any opaque membrane to obstruct the rays of the light.

CASE 2d. S. F. of Ipswich, a woman of about 61 years of age, and of rather a feeble constitution, had been blind with cataracts, eight years. The right eye became first affected, and, about a year after, the lens in the left began to grow opaque. She could distinguish the form and colour of objects, in a moderate light, with her right eye, but could see nothing with the left; she was likewise totally blind with the right eye, in a strong light.

On the 11th of September 1819, I operated upon her left eye. After introducing the needle, in the usual way, and endeavouring to rupture and detach the capsule of the lens, in order to remove it out of the axis of vision and promote its absorption, it was found that there was an attachment between the capsule and iris at the inferior part; the lens was removed as far out of the axis of vision as was thought prudent, (for owing to the attachment of the capsule, the view of the motions of the needle was rather limited) and as many efforts to detach the capsule from the iris were made, as were thought proper, in one operation. The adhesion was partly destroyed, in consequence of which an effusion of blood took place from the iris, which, flowing into the anterior chamber, mingled with the aqueous humour and rendered it turbid.

September 16th. Pain came on with considerable violence soon after the operation, and continued to recur, at intervals, for two or three days; but, to day, it has almost wholly subsided.

September 19th. In consequence of the endeavours to detach the capsule from the iris, the inferior border of the latter is turned downward and inward and, by that means, dilates the pupil considerably; the opaque lens and capsule still cover a great part of the pupil, the superior part of it only remaining free; the lens is, however, so situated as not to press upon the iris. The perception of objects is rather indistinct, owing probably to the oblique direction of the rays of light and the turbid state of the aqueous humour.

September 21. The inflammation has almost entirely subsided, there still remains considerable tenderness in the eye. The turbid red appearance of the aqueous humour has wholly disappeared, which renders the perception of objects rather more distinct; there still remains, at the bottom of the ante-

rior chamber, a small red crescent, formed by the subsiding of the red globules, but it is fast disappearing.

September 27th. (Sixteen days after the operation on the left eye,) the operation was performed on the right. The lens, being of a firm consistence, was very readily detached and depressed. The pupil remained perfectly clear, and free from all opaque particles, and there was no adhesion between the iris, and capsule of the lens. There was no appearance of effusion of blood in this operation, and the pain was very moderate.

October 2d. The eye was opened, on the third day after the operation, in a moderate light, and she was immediately able to discover objects. The pain and inflammation have been remarkably slight.

On the fourth day, the eye was examined; the conjunctiva appeared free from inflammation; there was however considerable sensibility to light.

On the sixth day, the eye was more closely examined, in a much stronger light; the pupil remained perfectly clear and round, and nothing could be discovered of the opaque lens.

October 6th. She made a trial of the three inch glasses and could see to read at about five inches' distance; she afterwards tried those of five inches focus, which were best adapted to her eyes. The right eye has been for a number of days, as easy and well as before the operation; but the left remains in an uneasy state, which seems to have rather increased since the operation on the right: this is owing probably to the unnatural condition of the iris, the lower part of which remains in the same situation in which it was left by the endeavours to separate it from the opaque capsule.

On October 14th, I operated a second time upon the left eye. The opaque lens, which still obscured a great part of the pupil, immediately upon endeavouring to complete the depression of it in the posterior chamber of the eye, disengaged itself from the needle and came almost entirely into the anterior chamber. While in this situation (which was but for a moment, for I immediately introduced the needle anteriorly to the lens and depressed it in the posterior chamber of the eye) it pressed upon the inferior part of the iris and dilated the pupil still more. After depressing the lens, the capsule was separated from its attachment to the iris, folded up as much as possible and placed just on the inside of the pupil.

October 19th. I examined the eye, in a good light: nothing could be seen of the lens; and the capsule remained in the situation in which it was left by the operation.

October 25th. The pupil shews no disposition to contract, nor is any motion perceptible in it, on an increase of light: there does not appear to be any inconvenience from this state of the pupil, except there may be a little more sensibility to light.

November 11th. The sensibility of the retina of this eye appears as perfect as the other. She uses it, in a moderate light only, on account of the disagreeable effect that a strong light has upon it.

November 20th. The lower part of the iris remains in its former situation, but the upper part is considerably broader, which diminishes the size of the pupil very much and renders it of rather an oval form. She can now use the eye without much inconvenience, in quite a strong light. She reads a chapter in the bible every day, and has read, at intervals, during a day, ten or twelve pages in a 'duodecimo volume of middle sized print; she can likewise distinguish very small objects remarkably well.

In the treatment of this case, the greatest reliance was placed on antispasmodics, for the relief of pain in the head, and eye, nausea and faintness.

Newburyport.

[To the Editors of the New-England Journal of Medicine and Surgery.]

MESSRS. EDITORS,

IF you think a publication of the following facts which I have obtained by reading some late writers upon the subjects to which they relate, will be of any public utility, you are at liberty to insert them in your valuable Journal.

J. B. BROWN.

A knowledge of the diseases of animals in general, cannot be inferred from a knowledge of the diseases of any one particular species of animals.

Thus he who is acquainted with the diseases of the horse, would not from that circumstance be able to prescribe correctly for the diseases of quadrupeds generally. The anatomy and physiology of animals differ. For example, the dog has no insensible perspiration. The mouth of the horse performs but one office, that of conveying food to the stomach. It conveys nothing to the lungs or from them. It has nothing to do with the modulation of his voice, as in most quadrupeds and in man. The passages to the lungs and to the stomach in the horse, are distinct.

The horse unlike most other quadrupeds has no gall-bladder, notwithstanding a work which has been through *twelve* editions, and one at least in this country, (Taplin's Farriery) gives a particular description of the *diseases* of the gall-bladder, and the *symptoms* of those diseases.

It has been stated above, that the anatomy and physiology of animals differ, so also do their diseases.

The horse is not subject to fever, i. e. he has no simple, idiopathic fever, no cold, hot and sweating stage, as man has. The feverish action, which the heart and arteries of the horse sometimes assume is sympathetic, and is always preceded by some local affection. It is a disease of irritation.

The eyes of the horse are subject to a species of cataract, that affects no other animal. It arises from a constitutional disease, brought on by bad stabling. It is never produced by local injury. This species of cataract commences with an inflammation of the conjunctiva, without any apparent cause. Local applications have no effect in removing it. The only rational method of treating it is to remove, if possible, the constitutional disease and improve the health and condition of the animal.

Oxen and cows have the disease called bots in their skin, but in the horse this disease (if it may be so called) is confined to the stomach.

Farcy and glanders, I believe, are diseases peculiar to the horse. I know of no other animal subject to them. They are contagious diseases, but may be produced without contagion, by bad stabling. The poisonous matter of farcy will produce glanders, and *vice versa*. Farcy is now ascertained to be a disease of the superficial absorbents; whereas in all the old books on the veterinary art, it is represented as a disease of the veins.

A horse glandered has the whole mass of blood contaminated. This may be considered by medical gentlemen as an important fact, as it goes to prove the doctrine of humoral pathology. That the whole mass of blood is diseased in a horse affected with glanders has been proved by the following experiment made by Mr. Coleman, Professor at the Veterinary Institution, England.

He took a young healthy ass, an animal, as he states, peculiarly susceptible of the disease, and introduced a pipe having a stop cock into the jugular vein, united by means of an ureter to another pipe, which he introduced into the carotid artery of a glandered horse. He then bled the ass to *death*, by opening his carotid artery, and turning the stop cock, admitted the blood of the horse into his vessels, and resuscitated him. The result was that the ass became violently glandered. He inoculated

other asses from the matter produced in him, and was able to carry on the same disease.

Corns in the feet of horses are very unlike corns on the feet of the human subject. There is nothing which grows in the feet of horses that constitutes corns. There is no increase of substance. Corns in the feet of horses are mere bruises. Every body has seen or experienced the effects of bruises upon the human nail. Corns in the feet of horses are injuries of a similar nature. The red appearance which they have is caused by an extravasation of blood which spreads itself among the fibres of the horny hoof. Corns are generally occasioned by the shoe. They may, however, arise from other injuries. They are easily cured by suitable remedies and a proper mode of shoeing, unless the inflammation occasioned by the injury has been of long standing and assumed a chronic character. In this case the cure is more tedious.

Horse ail.—I will take this opportunity to make a few remarks on the nature of this complaint.

Strictly speaking, all diseases of horses are *horse ails*; but custom has given this epithet to a species of disease very common among our horses. The disease referred to, is called *strangles* in most of the old books on Farriery. It consists in an inflammation of the membrane lining the nose and the arytenoid cartilages. This disease is accompanied by a cough and a discharge from the nostrils. The cough is sympathetic, and is produced by the extreme sensibility of the membrane thus inflamed. The lightest dust, or even a drop of water lodged upon this membrane, in this irritable state, produces coughing. The inflammation sometimes extends to the lungs, and then this disease is accompanied with a disease of the chest, and requires speedy and energetic treatment, as inflammation of the lungs in the horse is apt to terminate speedily in gangrene. Copious bleeding, from six to ten quarts at first and smaller bleedings afterwards, as the state of the case may require, and small doses of aloes from one to two drachms, given daily, have been found the most successful remedies in inflammation of the lungs. Drastic purgatives should be avoided, as they increase the irritation, and put the life of the horse in extreme hazard.

It has been stated above, that the diseases of animals differ as much as their anatomy and physiology. The specific effect of medicine upon different animals is no less various than their structure and diseases.

Glauber's salts in doses of one pound operate on the ox as a cathartic, but on the horse they operate principally as a diuretic. Castor oil does not operate on the horse as a purgative, any more than train oil or any other oil.

Opium does not produce its specific effect upon the horse. It operates merely as an astringent. It has no anodyne effect, as it has upon man. It will not mitigate pain. It is unfortunate that most writers on the veterinary art have copied from each other, and have recommended medicines for the horse which are known to be useful to men. Thus calomel, rhubarb and colocynth, have been recommended as purgatives for horses, whereas they are now known to have no such effect on that animal.

Bark produces no sensible effect upon the horse.

There are no medicines that operate on the horse as ipecacuanha and tartar emetic do upon the human subject.

Tartar emetic in doses of four ounces will sometimes occasion a little nausea and purging, but in smaller doses it has no sensible effect. No preparation of mercury will produce salivation in the horse. His gums may be made sore by mercury, but ptyalism cannot be produced by it.

Sugar of lead which is known to be a most deadly poison to man, the horse can take without injury.

Tobacco has no deleterious effect upon the horse.

Hellebore in doses of half a drachm produces a tendency to nausea in the horse. Hemlock is good food for goats, but a deadly poison to man; and wheat, the natural food for man, is poison to the horse. Spirit of turpentine, which an infant may handle without injury, operates as caustic when applied to the skin of a horse, although it may be applied to sores and fungous flesh on that animal without producing pain.

[To the Editors of the New-England Journal of Medicine and Surgery.]

SHOULD you deem the inclosed communication of any practical utility, you would confer a favour on the subscriber by giving it a page in your Medical Journal.

A Case of Worms. By DOCTOR EDMUND PORTER, Licentiate of the Connecticut Medical Society, &c.

FEBRUARY 15th, 1822—I was requested to visit Miss M. Britton, owing to the inclemency of the weather I neglected calling on her immediately, but forwarded an active dose of calomel and jalap which was taken, but did not produce the effect intended. In the evening of the above day a second messenger arrived and informed me that 'she was strangling to death,' and requested my immediate attendance. I visited her—her symptoms considerably resembled hysteria—she com-

plained of a ball rising in the throat, which continued to move—at intervals suffocation returned—the pulse was full and strong, attended with considerable fever, furred tongue, slight rigors, cough, nausea, and vomiting. Having obtained a satisfactory history of her indisposition, I did not hesitate to treat it as a case of worms, attended with highly inflammatory diathesis.

Treatment.—I took from the arm one pound of blood, and then exhibited an emetic of tart. antimonii and ipecacuanha combined, in order to dislodge the offending mucus and worms if possible which infested the œsophagus. The attempt was in a measure fruitless, the worms were not discharged, it however disgorged a considerable quantity of slime and biliary matter—she felt slightly relieved. Tobacco as recommended by Dr. Barton was then applied to the throat and chest—and a strong decoction of spigelia and senna (say one quart) was drank during the remainder of the night—the following morning a worm of the *lumbricius* species was evacuated—strangulation, and suffocation partially abated—cannot sleep in a recumbent posture—fever continues—the pulse more natural—still feels the worms in the throat.

Having on a former occasion witnessed the utility of the *Carbonas Potassæ*, as prescribed by my friend, Dr. James Lakey, in a similar case, in lieu of lime water, for destroying the mucus, and loosening the adhesion of vermes, I lost no time in exhibiting it, to the amount of six grains in solution with sal sodæ every two hours—and continued the decoction of spigelia.

Feb'ry 17—This day I found my patient much as I had left her yesterday, with this exception, she had discharged *eleven* uncommonly large round worms—the alkaline solution continued, and calomel and jalap repeated.

Feb'ry 18—Pulse less frequent, fever, slight flushes of heat, and rigors continue, appetite very indifferent, the sensation of worms creeping in the throat considerably aggravated.—The cathartic discharged a large quantity of mucus.—Not being in possession of the *stizolobium*, or any other mechanical remedy, on which I could rely with confidence, I resorted to the *spirits of turpentine* which I prescribed to the amount of one drachm every other hour—and increased to eight grains the alkaline, in solution with the least possible quantity of water.

Feb'ry 19th—Symptoms more favourable, can rest in a recumbent posture, the pulse natural, fever abated, her spirits improved, and the sensation of 'choaking and crawling of worms in the throat' scarcely perceivable.—This day she voided *twenty-teres* or *lumbrici*, and a live worm judged to be *twenty-seven inches* in length, resembling a fine linen thread, probably one of the species described by Goeze, called '*trichuris*.' The re-

medies before mentioned I continued to alternate with calomel for a few days longer, until *sixty-four* worms, the least of them measuring above ten inches were voided *per anum*.—The febrile and other symptoms having subsided, the before mentioned vermifuges were superseded by chalybeates, barks, bitters, wine, &c. which completely restored my patient's health and vivacity.—Miss M. B. is eighteen years old, of the middle size, of dark complexion, and naturally healthy.

Cases of Disease of the Lungs. By JONATHAN SHERWOOD, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

THERE has been so much written on the efficacy of a salivation in pulmonary consumption, that you may deem it superfluous to publish the following observations on that subject. But as there cannot be too much testimony in favour of a remedy that has already rescued from premature death hundreds of the human species who must otherwise at this time have been mouldering in the dust, I am induced to transmit to you a brief history of three cases out of many others that have occurred in my practice in which the utility of mercury has been demonstrated beyond the possibility of a doubt. I am further induced to make this communication in consequence of noticing that mercury has fallen into disrepute among many of my medical brethren as an efficacious remedy in that formidable disease. I therefore, consider myself in duty bound, to exert my feeble efforts to convince them of their mistake and shew them wherein they have erred. The following according to the late Doctor Rush are some of the reasons why they have failed to cure consumption with mercury. He says, It was probably given before the morbid action of the blood vessels was reduced by blood-letting and low diet. 2dly, after the suppurative action in the lungs was so far advanced as to prevent the action of the mercury predominating over it. And perhaps a third cause of our want of success may be derived from our having given the mercury after all the excitability of the system (on which medicine act) had been wholly expended ; or 4thly, from our not giving it with some other medicine calculated by its previous or accompanying stimulus to prepare the system for its impression upon the mouth and salivary glands ; or lastly, from our not giving it in the form as in the antimonial powder in which it is diffused through the mouth in the act of swallowing it, which powder is composed of

Nitre	-	-	15	grs.
Tart. antimon.	-	-	$\frac{1}{8}$	"
Calomel	-	-	$\frac{1}{2}$	"

CASE 1. A Miss E. R. aged about 25 years, was attacked with phthisis pulmonalis in the year 1813—the disease was hereditary in her family, she having lost in the course a few years a number of brothers with consumption. When she came under my care she was labouring under the following symptoms—viz: a fever of the hectic kind, accompanied with chilly fits, a severe cough, and copious expectoration from the lungs, pain in the breast, and difficult respiration, night sweats, a full, frequent, and hard pulse, a regular accession of fever in the afternoon with a circumscribed flush on the cheek, and she was so weak as to be confined to her bed.

After reducing the morbid action of the blood-vessels by blood-letting and low diet, I commenced giving the above antimonial powder with an increase of the calomel to three grs. every six hours—after continuing its use for about three weeks, I with much difficulty succeeded in producing a ptyalism. Immediately after a mercurial action was excited in the salivary glands, her fever, cough, expectoration, pain in the breast, and every other symptom of her disease subsided—she became convalescent and was soon restored to her former health and vigour. She married some years afterwards and emigrated to the State of Ohio, a distance of upwards of five hundred miles—since her residence in that country I have not heard from her.

CASE 2. On the 5th December, 1820, I was requested to visit a Mrs. F, aged about fifty years, with the following symptoms—a fever accompanied with cough, and expectoration from the lungs, pain in the breast and side, difficult respiration, a burning dryness in the palms of the hand, and pulse small, hard and tense, and in frequency about one hundred in a minute; night sweats, considerable emaciation, great debility, a regular exacerbation of fever in the afternoon preceded by chilly fits, and there was a circumscribed flush on the cheek; tongue foul, and loss of appetite.

I drew from her arm about ten ounces of blood, which was covered with the inflammatory buff, and as there were symptoms of a morbid state of the stomach and bowels, I gave her a cathartic of jalap and calomel, and commenced giving the tincture of digitalis and laudanum, equal parts according to the directions of Doctor Beddoes of which she took from 20 to 30 drops every eight hours.

6th. Felt somewhat easier in her breast and side—less difficulty of breathing. From this time to the 20th, the tincture of

digitalis and laudanum was continued, and blisters were repeatedly applied to the chest, this treatment afforded much relief, but did not eradicate the disease, and I found it indispensably necessary to adopt some more decisive plan in order to check the progress of this fatal malady—after stating to her the probable fatal termination of her disorder unless she took mercury—she after much persuasion consented to submit to my directions. 3 grs. of calomel was given every six hours, and continued ten days, at the end of which time a slight ptyalism came on when every unfavourable symptom subsided—her fever, cough, pain in the breast, and difficult respiration left her, and she appeared to be convalescent until the 13th of March, when she informed me that the pain in her breast had returned the day previous. At this time her pulse was about 80, small and hard. She was again bled to the amount of 10 ounces, which was still buffy, and the tincture of digitalis with the omission of the laudanum, was again ordered, and another epispastic was applied to her breast.

17th. Found her with less pain in her breast, pulse small, hard and frequent—8 ounces of blood were again taken from her arm, and the tincture of digitalis continued.

23d. I was highly gratified to learn, that the pain was removed, and a great number of boils had made their appearance on different parts of the thorax, and it was a singular circumstance to me, that the ptyalism continued although she had not taken any mercury for ten weeks.

4th April. The salivation has ceased and she requires no more attendance.

17th February 1822. It is now upwards of a year, that she has remained in her usual health, and without a single symptom of the complaint.

CASE 3. May 27th, 1821. I was desired to visit a Mrs. D. aged 36 years, of a florid complexion—She informed me she had been indisposed four years with pain and soreness in her left side, accompanied with cough at intervals, and discharge from the lungs.

I found her labouring under the following symptoms, viz.—A fever of the hectic kind with chilly fits, and expectoration of pus-like matter from the lungs, and respiration was so much impeded that she could not make an inspiration without greatly distressing her, neither could she lie on the affected side. She raised from her lungs every morning a considerable quantity of pus mixed with blood; and it is to me singular, that it came up without cough—she had the hectic flush on her cheek in the afternoon and was much debilitated.

From the above symptoms, I had no doubt of her disease being phthisis pulmonalis—her pulse was not hard or frequent, but there was so great an oppression at her breast and difficulty of breathing that I thought proper to take from her arm a few ounces of blood which gave considerable relief to the pain in her side and difficulty of breathing. By the time the blood had done flowing a large epispastic was applied over the left side of the chest, and I commenced giving her 3 grs. of calomel every four hours.

May 30th. There was very little pain in her side or difficulty of breathing, but the expectoration of pus and fever continued.

June 2d. A slight pyalism had commenced, and she was so weak as to be unable to rise from her bed. Being determined to give the mercury a fair trial, I continued the calomel with directions to discontinue it whenever the salivation and soreness of her mouth became much increased.

June 8th: Found her with a profuse salivation, and I was highly gratified to find that the more copious the discharge of saliva the stronger she became, for at this time she was able to leave her bed and walk into the garden.

June 12th. The expectoration of pus had nearly ceased and she was without cough, pain in her side, chilly fits or fever, and the mercury was discontinued.

June 18th. I learned that the salivation had suddenly subsided and every unfavourable symptom had returned—she expectorated pus tinged with blood every morning, the pain had returned in her side, and her pulse increased in frequency to between 90 and 100 in a minute, and she was again confined to her bed. The calomel powders were again left for her.

June 20th. The salivation had returned, and the pain in her side was again greatly relieved, and expectoration of pus much lessened—the mercury was ordered to be continued so often as to continue the pyalism without suffering it to diminish—from 3 to 6 grs. a day were found sufficient for that purpose.

June 25th. The pain in her side and expectoration of pus had nearly subsided, and her pulse was reduced to 70 in a minute, and she was again able to leave her bed and walk about her room. It is here worthy of remark, that when the salivation was suffered to diminish, she not only failed in strength but the pain and other unfavourable symptoms would immediately return, for when the discharge of saliva was so profuse as to wet a small towel every hour, her strength would increase, the pain and expectoration of pus would diminish, and her pulse would be rendered soft and slow—in this situation she continued until the 20th July, being constantly under a pyalism, which seemed

to do much towards mitigating her disease, but did not effect a complete cure. Being extremely anxious to save so valuable a member of the community as I conceived this woman to be, I began to look about for other remedies, and having noticed in the Philadelphia Medical Museum, vol. 6, page 270, a case of phthisis pulmonalis successfully treated by Doctor Samuel Agnew, with acetate of lead and digitalis, I determined as a last resort to try the lead in this case. I therefore commenced giving her on the 21st of July, a pill composed of

Sacc. Saturni	-	2	grs.
Opium	-	1	"
Ipecacuanha	-	2	"

This pill was given once in eight hours, and continued ten days, when she was attacked with distressing pains in various parts of her body, especially the extremities, accompanied with considerable febrile commotion, which subsided in about 8 days, under the antiphlogistic mode of treatment, when the expectoration of pus, pain in her side, and every symptom of her complaint were removed, and she became convalescent, and in the course of a few weeks returned to her ordinary business.

Champion, Jefferson County, N. Y.

Case by Dr. CHADBOURNE.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE following case forms one of those interesting anomalies in pathology, which, although sufficiently instructive to be made known and recorded, will not enable us to deduce any useful principles that can be applied in practice. In short, it is so unlike any diseases of the uterine system hitherto described, that it is presumed a parallel case cannot be produced from the annals of medicine.

Miss S—y W—, aged thirty-six, who now resides in Andover, N.H., fell at the age of fourteen, and received a considerable injury in the region of the kidneys. Her menstrual health continued good till the age of twenty-seven, when she began to experience severe pain at each period, and small scales resembling bone came from the urethra, attended with much pain in voiding the urine. From that time to the present period, pieces of bone continually increasing in magnitude have been discharged from the urethra at different intervals. Four years since they had become so large that it was necessary to dilate the urethra be-

fore they could be extracted.* During the last two years, the fragments of bone resemble the large cylindrical bones of the ox, when broken by an axe or hammer. She is sometimes relieved by her own exertions, but generally the pains at the time are so excruciating as to produce delirium, and the assistance of her physician is necessary. The pain often resembles the most violent parturient pains. The state of her bowels has been generally costive. She once went three weeks without an alvine evacuation. At each monthly return, hydatids or bladders of water are expelled from the uterus, accompanied with all the phenomena of strong uterine contraction. They are of different sizes from that of a walnut to a goose egg. They contain a thin pellucid fluid. Almost every menstrual return is attended with a discharge of these membranous sacs. The history of the case thus far I received from a source entitled to implicit confidence. It was related to me by Dr. Merrill in presence of the patient and her mother; and all who are acquainted with Dr. Merrill's moral and professional character know him to be above deception himself, and not easily deceived by others.

It was in April 1822 I visited this patient in company with Dr. M., and every facility was afforded of ascertaining her real situation. The countenance of S. W. is that of a person who has long laboured under a painful disease. Although her digestive organs are not much disordered, yet they perform their functions so feebly, that she takes but little food. From the size of the abdomen she would be supposed in the last months of pregnancy. On applying the hand externally, I found a hard circumscribed tumour occupying the hypogastric region, and extending to the umbilicus—much harder than the gravid uterus, and differing from that in being angular or uneven upon its surface. The ovaria appeared to be enlarged, as a tumour occupied the place of each. The left, I should judge, was the size of a coffee cup, the right was smaller. It was with much difficulty the os uteri could be found. A portion of the large central tumour projecting into the vagina seemed to turn the os uteri obliquely to the left ischium; and there was so little space that it gave much pain to pass the finger round it. It would have been desirable to have introduced the sound into the bladder, but for this I was not prepared. Dr. M., however, had often done it, but could discover nothing unnatural. The obliquity of the os uteri would render ineffectual any attempt to introduce an instrument there.

* The bones which I send you, afford a fair specimen of those discharged for the last four years. They were taken from the urethra last November by Dr. Silas Merrill, her attending physician.

The above forms such an assemblage of unusual symptoms that it is difficult to reason upon them, and still more so to draw any satisfactory conclusion as to the source or production of these bones. That bony scales have been discharged, and that large fragments of bones have been found in the urethra and extracted by her attending physician, there is not the least doubt; but how they came there, is a question that seems at present unanswerable. The whole uterine apparatus is evidently in a very diseased state; the nature and extent of which is not yet ascertained. An examination after death may throw light on this wonderful case, and clear up what now seems inexplicable. That the patient *may* have practised *deception*, and actually have placed the fragments of bones in the situation in which they have been found is difficult to be believed. What inducement this poor girl could have to perform such feats, attended with so much pain and protracted suffering, subjecting herself too to an annual expense that has already deprived her of her little patrimony, while she gains nothing by the deception, is indeed very surprising. It may be proper to add, that the patient has always sustained an unblemished character,—that she lives in a retired situation, much secluded from the world, and we have reason to suppose is a stranger to the evil practices and vices of more mixed society. Her mind is as much improved as could be expected from the advantages she has enjoyed. She conversed very rationally on the subject of her disease. Nothing would prevail on her to divulge her situation to any except her own physician, but the encouragement held out to her that possibly something might be done for her relief and comfort; and she consented that the history of her case might be made known to the Medical Society only on condition that her name should remain a secret.

NOTE.—Three of the bones referred to in the preceding case, accompany the communication. They are evidently fragments of the cylindrical bones of the horse or ox. They are of considerable magnitude and weight.

1. One weighs five drams.
2. One three drams and a half.
3. One three drams.

The following are the dimensions of each, referring to the above numbers.

No. 1. This is within half a line of being three inches and a half in length. Its greatest circumference is two inches and a half measured over the most projecting edges. It is of an irregular angular shape at its greatest extremity, and tapers to a

point at its other extremity. Three of its lateral edges are very sharp. It is grooved on its inner surface as is usual in the long bones. Its surfaces are very smooth and polished; of a very firm texture, and of a whitish colour.

No. 2. This is within one line of being two inches in length. A string carried over its greatest circumferences measures three inches and one line. This is at one of its extremities. It ends abruptly at the other, being there rather more than an inch and half round. On its broadest face it is triangular. Its edges are extremely sharp, its angles pointed. Its outer surface smooth and polished, its inner one rough and grooved as in No. 1. On one of its sides exists a foramen, with a sulcus leading to it, grooved in the bone; and at its place of exit into the interior part of the bone, a soft substance of the colour of dried blood, is to be seen, reminding one of the appearance at the end of a fracture, should it happen to have crossed the *trajet* of the blood vessels which supply bones.

No. 3., is within a line of being three inches in length, and at its greatest extremity measures two inches in circumference. It goes off nearly to a point at the other extremity. It is grooved, and the broken edges resemble in colour and structure recent fractures.

Such is an exact description of the bony masses, which have been removed from the human female urethra.—ED.

THE following very interesting case was communicated in a letter to Dr. CHANNING by the author, with permission to publish it.

DEAR SIR,

THE facts in the following case of stricture of the vagina, accompanied with pregnancy, is interesting in a physiological as well as practical point of view. You are at liberty to make any use of them you may think proper.

May 26, 1821. I was called to Mrs. —, aged about twenty-six years, who made the following statement of her previous and existing situation.

'About two years since I was confined with my first child, was sick two or three days, the child remained very low down twenty-four hours previous to birth, and when born I was so exhausted I was unconscious of its birth. The child was dead. I suffered severely during several weeks. by soreness of the parts, difficulty in making water, and troublesome effusion of purulent matter. These complaints gradually abated, and in about three

months from the time of my confinement, my monthly turns appeared and my health was restored. I have remained well. My monthly evacuations have continued regular from that time till within about three months, when nature stopped, and sensations similar to those I had when pregnant with my first child came on, and should think that was my present situation, had I not reasons to believe that impossible.' I asked what those reasons were. She informed me, that since her last confinement an insurmountable obstruction existed at the entrance of the vagina. I requested her to allow me to make examination, to which she reluctantly assented. On examination I found no adhesion of the labia; but in attempting to pass the finger per vaginam, it was obstructed by a stricture at its entrance. It felt to the finger as if a thread had been passed round the vagina and drawn up tight and tied to the symphysis pubis, leaving a small aperture just sufficient to pass a common sized probe directly under the symphysis. I informed her it was possible and very probable that she was with child, and advised a division of the stricture.

June 7. Met Dr. Miller in consultation, at which time it was agreed to divide the stricture. The operation was immediately performed by Dr. Miller, and the stricture so completely destroyed that the parts appeared of a natural size. On passing the finger per vaginam, the parts above the stricture were in a healthy state, the uterus enlarged, and we had no doubt she was pregnant. A pessary was inserted to prevent a reunion, which was retained six or seven days, then removed, and the wound soon healed without apparent contraction.

She continued in good health till the 31st October, when travail commenced. I was called early soon after the pains began. On examination I found the os internum dilated to the size of a cent, the head of the child presenting naturally. And so entirely was the stricture of the vagina destroyed, that had I not previously known of its existence I should not have suspected any thing unnatural in any part of the vagina at this examination. When however the head came low in the vagina, the part where the stricture had been, did not dilate equally with the other parts, and something resembling a small thread appeared to rise from the posterior part of the vagina and obstruct its progress. The pains were strong and pressed the head strongly against this part, which I supported with the palm of the hand as powerfully as I could to give it time to relax; it soon however gave way, and the child was born immediately after. On examination after delivery, I found a laceration of the rectum immediately above the sphincter ani, an inch in length, laying both passages together. The

next day administered a cathartic; when it operated, the fecal matter passed through the lacerated intestine, and was discharged at the labia pudendi. To prevent a continuance of the fecal discharge in this manner, a pessary was applied at the time she expected a movement of the bowels; this, together with the inflammation of the part, which lessened its aperture, soon restored the feces to their natural channel. The torn bowel soon healed, and I have heard of no difficulty remaining since she recovered from her confinement.

With much esteem your very humble servant.

JEREMY STIMSON.

Dedham, June 10, 1822.

THE following case was communicated to me in a letter by the consulted physician, with a request to publish it, with such remarks as might be suggested by the circumstances attending the case and the practice.

W. CHANNING.

Case of Inversio Uteri.

DEAR SIR,

WE are informed by Dr. Denman and others of the impracticability of reducing an inverted uterus, after it has been in that state a few hours. Having recently had a case, which resulted in a different manner, I take the liberty to communicate to you a statement of facts relative to the same.

Mrs. —, a slender, delicate woman, aged twenty-six, was taken in travail February 22d., 1822, with her first child. After about twelve hours she was delivered, without any extraordinary difficulty, of a full grown healthy male child. The attending physician says he pulled gently at the cord; immediately the placenta pushed forward, protruded at the external orifice, and was followed by the uterus, completely inverted. The placenta still adhering, he separated it with the fingers, and returned the organ as he supposed into its proper place. The woman was tolerably easy through the night following, though considerable blood was discharged from the uterus. On Saturday 23d., she was taken out of bed, when the uterus immediately protruded out of the body, followed by a copious discharge of blood. Dr. — was in a few minutes called in and pushed the protruded uterus within the vagina, supposing that this was all that was necessary to be done, or rather concluding he had returned the prolapsed part to its original situation. The loss of blood at this time was considerable, so much so as to produce syncope from which she

was gradually recovered by cordials, friction, and volatiles. A moderate discharge still continued to flow till about 12 o'clock at night, when the pulse began to sink, accompanied with faintness and great prostration of strength.

The account thus far, I received from the physician in attendance. I was called Sunday 24th at 9 o'clock, A.M. and found the patient very low. Pulse at the wrist hardly perceptible, though she retained her reason, conversed, and expressed much satisfaction on my arrival, hoping relief would be certain. Upon examination, I found the uterus completely inverted, occupying the whole of the vagina, the neck reaching above the pubis. No urine had been passed since delivery. The catheter was introduced and drew off three pints of high-coloured urine, which gave considerable relief. The attending physician had made an ineffectual attempt to introduce the catheter. The patient expressed great desire that the part protruded should be returned to its proper situation; her friends were also urgent for the operation. I suggested a doubt of the practicability as well as of the expediency of an attempt, in so hopeless a case; at the same time evinced a willingness to gratify their united and earnest desires, by making a trial. They still urged. She was placed on her back, the left hand was passed into the vagina, which grasped and covered about two-thirds of the circumference of the tumour, the neck of the organ being pretty closely contracted. A gradual pressure was made and continued about ten minutes, which enabled me to bring the whole fundus into my hand. I then brought the three middle fingers to a cone, placed the ends against the fundus, the thumb and little finger at the same time embracing either side of the tumour. In this manner a gradual, but firm pressure was made and continued about five or six minutes, when the fundus passed through the neck, the latter contracting firmly round the wrist. The hand was continued in the cavity about three minutes, when a gradual contraction brought the walls of the uterus into contact with the same, the latter being withdrawn, the parts remained stationary. She bore the operation with great fortitude, lay calm and free from pain about one hour. Short and laborious breathing soon after succeeded, and she died without a struggle at four o'clock P.M., seven hours after my arrival.

REMARKS.

CASES of inversion of the uterus are very rare. Inversion is reckoned among the most dangerous and distressing accidents to which the organ is liable. Inversion of the uterus

may be produced by rash attempts to remove the placenta by pulling the cord. It has been produced by attempts to separate the placenta by the hand when introduced into the uterus. It has occurred spontaneously. Two cases were related to me by very respectable physicians soon after receiving the above communication. In one of these the labour had been perfectly natural. The placenta was felt to be in the vagina, just within the external organs. By very moderate assistance it came away, and immediately *after* it the uterus inverted was protruded from the vagina. It was immediately but very cautiously reduced. The placenta was removed before the operation was attempted. Very little blood was lost. The uterus discovered no disposition to contract. The os uteri remained as much dilated as immediately after the passage of the child. The patient began to sink at once after the reduction, and died in a very short time.

In the other case, the attempt at reduction was not made until twenty-four hours after the inversion had occurred. Contraction had taken place, and the organ was found so much diminished as to be entirely within the vagina. Compression was employed by embracing the uterine tumour firmly in the hand. No great pain was experienced. Under the use of pressure, the tumour was found to be diminished in size, and ultimately was so far lessened as to pass the contracted mouth, and thus was completely reduced. This patient did well, and has since had children.

In remarking on the case, which is the subject of this article, the first point of practice to be noticed is the management of the placenta before the return of the uterus to its natural situation. On this point some difference of opinion exists among midwifery writers; Baudelocque, Gardien, Carpuron, Boivin and some other French writers recommend its removal before reduction. Denman says, 'It would probably then be right to say, if the placenta be partly separated, it will be proper to finish the separation, before we attempt to replace the uterus; but if the placenta should wholly adhere, it will be better to replace the uterus, before we endeavour to separate the placenta. The ground of this opinion is, that while we are separating the placenta, the cervix of the uterus is speedily contracting, and the difficulty of replacing it increasing, which is a greater evil by far than a retained placenta.*'

Dr. Merriman after referring to Puzos, Dionis, and others on this subject, says, 'In a case of this kind which occurred in

* Introduction to Midwifery, 2d. vol. pp. 361, 362.

my practice, the placenta was removed without prejudice; but I think I would not in future remove the attached placenta, till after the uterus was restored to its right position.*

Dr. Merriman has given the particulars of five cases of inverted uterus.

The first case was a very unpromising one, the patient being excessively reduced by hemorrhage. The operation was begun about 30 minutes after the accident, the placenta was first removed. The fundus uteri was carried upward, till the arm was passed quite to the elbow into the vagina; 'at this moment' says Dr. M. 'I found the fundus uteri spring from the back of my hand, and the os uteri began to contract.' p. 279. The patient notwithstanding excessive hemorrhage did well, and has since borne several children. In the second case from Dr. Squire, the placenta was also separated before the operation. Hemorrhage in this case was well nigh fatal. The uterus returned with a *spring* as in the case just mentioned. Very unexpectedly the woman recovered. The third case was fatal. The placenta was removed. The fourth was a case of spontaneous and irreducible inversion. The patient lived two years after the accident. The fifth is a case of irreducible inversion, and in which the uterus was extirpated by Mr. Chevalier many years after the accident occurred.

Mr. Newnham after remarking that several respectable writers recommend the removal of the placenta previous to the reduction of the organ, observes, 'but it is surely impossible that this proceeding can be attended by beneficial consequences, while its irritation of the uterus would necessarily tend to bring on those bearing down efforts, which would present a material obstacle to its reduction; and would increase the hemorrhage, at a period when every ounce of blood is of infinite importance: for it has often happened, that although the uterus has been reduced, and the patient has appeared to be doing well, a sudden, and prolonged syncope, or convulsions have occurred, and closed the scene. Besides returning the placenta, while it remains attached to the uterus, and its subsequent *judicious* treatment as a simply retained placenta will have a good effect in bringing on that regular and natural uterine contraction, which is the hope of the practitioner, and the safety of the patient, pp. 14, 15.†

* Synopsis, pp. 150, 151.

† Essay on the symptoms, causes, and treatment, of *inversio uteri*; with a history of the successful extirpation of that organ, during the chronic stage of the disease, by W. Newnham, Esq. London 1818.

Dr. Ramsbotham, after giving a case which was communicated to him, in which the placenta was peeled off before reduction, and which case was fatal, says 'If a case of this kind happened to me, or if I was called to one immediately after the accident, I would, by a gradual but firm pressure, made by the hand on the inverted fundus, attempt to revert the uterus on the instant; and should the attempt succeed, I would carefully separate the adherent placenta before I withdrew my hand. The separation of the placenta before reversion would either induce so considerable a degree of contraction, as to foil the return, or, if contraction did not take place, would endanger the patient's life by flooding, as in the present instance. *The mere return of the uterus within the vagina can be of no use; it only hides it from external view.*' p. 139.*

Mr. Clarke says on the management of the placenta in inverted uterus, 'The uterus is to be first returned to its usual state, and natural situation; and the case then becoming simply one of retained placenta, is to be treated as such. but if, neglecting this order of proceeding, the placenta should be first removed, a number of bleeding vessels are exposed before the uterus can contract so as to restrain the hemorrhage; and the chance is, that the patient may die from its effects.' p. 144.†

Mr. Burns says 'If the placenta still adhere, we should not remove it until we have reduced the uterus; after which, we excite the contraction of the womb, to make it throw it off.'‡ A case is referred to in a note in which the placenta was allowed to remain five days after reduction. This practice is justly reprobated. In Perfect's 71st case, the placenta was removed 4 hours after reduction. In Mr. White's case the placenta was removed first. The hemorrhage was excessive, and was very nearly fatal. 'I for a while desisted, says Mr. W. from an apprehension that she would die under my hands.'§

It would not be difficult to add to the authorities now adduced in favour of leaving the placenta untouched until after the reduction of the inverted uterus.

* See practical observations in Midwifery with a selection of cases. By John Ramsbotham M.D. London 1821.

† Observations on those diseases of females which are attended by discharges, illustrated by copper plates of the diseases, &c. By Charles Mansfield Clarke, member of the Royal College of Surgeons, &c. &c. Part I. mucous discharges. London 1814.

‡ See Principles of Midwifery, American Edition. By Professor Chapman. pp. 335, 336.

§ See treatise on the management of pregnant and lying in women. By Charles White, Esq. F. R. S. Worcester Edition. p. 300.

The above case is supposed by the writer to be an exception to the general statement of Denman respecting the period from the accident, at which reduction becomes impossible. In this case however it should be recollected, that the patient was almost at the point of death from hemorrhage at the time of the operation, and that a state of relaxation of the uterus existed, highly favourable to reduction. It is true that the organ showed a disposition to contract during the operation and was felt to contract after the reduction was accomplished. This contraction was probably from the description very slight, and very different from that active and effectual contraction by the operation of which the uterus so speedily returns after ordinary labour to comparatively its ordinary dimensions before pregnancy. Death in this case took place from the combined influence of excessive hemorrhage, and the protracted inversion of the uterus. What this last influence is we cannot explain. I have hinted at a case in which death speedily followed reduction which was effected in a very short time after the inversion took place, and in which the loss of blood was trifling. In that case no disposition to contract was manifested by the womb, and it retained at death the same dimensions as existed when it was replaced.

The case which is the particular object of these remarks conveys a very useful lesson. It teaches that the practitioner has not done his whole duty in such a case, when he has merely pressed the inverted organ into the vagina. The danger remains the same after this procedure as before. The only terms of safety are the perfect return of the uterus to its original situation, and this is to be accomplished by carrying the inverted fundus and body, if it be so, through the neck of the organ, and by continuing the hand in its cavity until regular and effectual contraction takes place, and prevents subsequent inversion by reducing the part to such dimensions as to render it impossible that the accident should again occur.

W. C.

REVIEW.

ARTICLE VI.

A Treatise on Indigestion, and its Consequences, called Nervous and Bilious Complaints; with Observations on the Organic Diseases, in which they sometimes terminate. By A. P. W. Philip, M.D., F.R.S. Ed., &c. London: Thomas and George Underwood. 1821. pp. 363.

THE design of Dr. Philip in his work on Indigestion is thus set forth in the preface.

‘My chief objects in the following Treatise have been to give arrangement to the various affections which have been termed Nervous and Bilious; to ascertain the nature of the disease on which they depend; to trace the causes which determine them to assume the various forms in which they are presented to us, and to determine the appropriate treatment of each of these forms.’ p. ix.

This volume is offered the public as ‘the result of the author’s observations, and the reflections suggested by them, during a space of twenty-five years.’

‘I have arranged the various cases, of which I am about to treat, under the denomination of Indigestion, because the symptoms of this derangement form a more or less prominent feature in all, and all begin with these symptoms. I prefer this term to dyspepsia, which has been employed by medical writers to express a disease much less varied, and of much less extent than that I am about to treat of. Indigestion, therefore, in the sense in which I shall use this term, is not synonymous with dyspepsia, but includes it.’ p. 3.

The treatise is divided into four parts:—

‘In the first,’ says Dr. Philip, ‘I shall present to the reader, a review of the symptoms, and more immediate consequences of Indigestion; in the second, consider the remote causes of this disease, the manner in which they excite it, and the nature of the changes which take place in its progress; in the third, detail the plans of treatment which have appeared to me most successful in it; and in the last, make some observations on the symptoms and treatment of the organic derangements, in which it often terminates.’ p. 4.

Symptoms of Indigestion. The first symptoms of indigestion arise either from undigested food, or from a particular state of

the stomach and bowels, and the irritation of the nerves of these parts occasioned by undigested food or vitiated secretions. From the first cause are produced flatulence, distention of the stomach and bowels, and acid, oily, and putrescent eructations. From the second and third a great variety of symptoms springs. The symptoms produced by undigested food, exist in various degrees. They hardly amount to an inconvenience in their early stages, and the patient perhaps suffers no more than one who in perfect health has accidentally overloaded his stomach. If the dyspeptic will, in this stage, limit his food exactly by the powers of his stomach, he may recover entirely and without farther means.

In the progress of indigestion, we observe other parts of the alimentary canal partaking of the disease. Their secretions are not healthy in quantity, nor probably, in quality. The bowels become slow, and occasionally are distended and tense some time after eating. The state of the mouth and tongue differs from health, the mouth growing clammy and the tongue more or less white, especially in the morning. As if still farther to indicate the character of the disease, at least in regard to its degree, the author notices here the effects of some mild physic on the symptoms. These are a temporary removal of them, and a state of feeling not very different from that of health. There remains however more thirst and less appetite than in health, and the feet are cold; the general strength remaining unimpaired. The recurrence of the symptoms, which more or less gradually is experienced, is at length attended with depression of strength, and the attention of the patient is now called to the disease. The mind begins to be influenced by it, and is soon fatigued with its ordinary efforts. Some alarm and a degree of despondency are experienced; and from having been treated as trifling by the patient, the complaint comes to receive his almost exclusive regard.

In the next stage of indigestion, changes are observed in the evacuations from the bowels, and in the circumstances which attend the discharges.

‘The alvine discharge begins to deviate from the healthy appearance: it sometimes contains uncombined bile, sometimes it chiefly consists of bile; its colour at other times is too light, more frequently too dark, and occasionally, at length, almost black; at different times it assumes various hues, sometimes inclining to green, sometimes to blue, and sometimes it is mixed with, and now and then almost wholly consists of, undigested bits of food. It often separates from the canal with more difficulty than usual, and leaves a feeling of the bowels not having been completely emptied. These sym-

toms only mark a greater degree of what has been going on from the first.' pp. 12, 13.

These changes are attributed to changes and varieties in the colour of the bile. Not that there is any deficiency in the quantity of this fluid, but that its sensible qualities are different from what they are in health. It is not that the bile though duly formed does not arrive into the duodenum from whatever cause, but that its colour differs from the natural one. This remark is more particularly noticed, because it is not an uncommon opinion when the alvine discharge is grey or white, that in these cases there is a deficiency in the bile itself; and because the treatment pursued, though it may be salutary, is adopted on a mistaken principle, and the danger of error is incurred. It is an opinion entertained by some, that the colour of the discharge depends on circumstances of diet, and on changes which are produced in its passage through, and on its delay in the canal. Dr. Philip thinks that something of this kind does happen, but that the principal cause is to be found in the state of the bile.

The urine also differs from its healthy state. From some experiments made many years ago by Dr. Philip, he was led to infer that when acid abounds in the stomach, or the skin is less active than usual, a red deposition takes place in the urine, and that in an opposite state of the skin, and of the stomach exists, a white deposit takes place. Similar states, more especially the former, are more liable to appear in Indigestion than in perfect health. The urine is farther sometimes covered with a very thin oily film; at times it is limpid and unusually large in quantity, more frequently scanty and too high-coloured.

'A remarkable sympathy between the state of the kidneys and intestines is often observed in Indigestion. the urine remaining scanty and high-coloured, when the bowels are constipated; and flowing freely, and of a paler colour, as soon as a free discharge from them has been obtained. Even in those dropsical affections which supervene on this disease, it is common for all diuretics to fail, when the bowels are constipated, and for the operation of cathartics alone to be followed by a free discharge from the kidneys.' p. 16.

The state of the skin before alluded to, seems to exert an influence over the secretion of urine in Indigestion; and the author refers to a similar cause, the increased discharge from the bowels at times noticed in this disease. He asks attention particularly to this circumstance in its connection with the following singular fact, that 'when the skin has from the state of that dis-

ease become uniformly languid, the increase is often in the solid as well as liquids contents of the bowels.'

The changes now mentioned in the appearance of the alvine discharge in indigestion, is commonly attended by changes in the other symptoms. We observe now a variable state in the bowels, diarrhoea alternating with constipation, and but imperfect relief from medicine. The discharge is unsatisfactory; very often watery, or frequent, semi-fluid, teasing, mixed with mucus, sometimes streaked with blood; and following this, distinct dysenteric symptoms.

'In the meantime he is harassed with a variety of symptoms, which arise from the irritation occasioned by the morbid contents of the alimentary canal, pains of the stomach, more frequently of the bowels, and particularly of the lower part of the bowels, sometimes continued, generally of the griping kind, a sense of weight in the right hypochondrium or lower part of the abdomen, with unusual distention of the former, sometimes disappearing in a day or two, particularly after freer evacuations, and returning again, at other times more stationary; a foul and clammy tongue, nausea, more rarely vomiting, a depression of strength, which sometimes, particularly after the unsatisfactory operation of cathartics, almost amounts to syncope, and a despondency that is hardly equalled in any other disease.

'As these symptoms proceed, a variety of others, arising from the sympathy which exists between the stomach and other parts of the system, gradually shew themselves. These are different in different cases, pain of different parts, and other complaints, of the head, affections of the sight, the hearing, smell, or taste. Not unfrequently the voice and articulation are variously affected. The patient is distressed with spasms of the trunk or limbs, numbness, and even temporary loss of power in the latter; and feelings of endless variety are described as sometimes in one part of the body and sometimes in another.' pp. 19, 20, 21.

Under the recurrence of such attacks, permanent debility, with emaciated and haggard countenance and the state of the mind becomes peculiarly distressing. After remarking on the importance of distinguishing debility from depression of strength, the author thus concludes his account of the general course of the disease he is considering.

'The patient, often from an early period of Indigestion, feels some uneasiness on laying on the left side, more rarely this is the case with respect to the right side. In the progress of the disease, laying on either side becomes uncomfortable, and, in its advanced stages, the only easy position is on the back with the shoulders a little raised, and generally inclined to the right side.' p. 23.

Having thus spoken at length of the symptoms of indigestion as observed in the alimentary canal, both in regard to the sensations experienced and the functions, Dr. Philip goes on to point out those symptoms which depend on sympathy. The state of the tongue and mouth is first noticed. In this a considerable variety exists. It may however be remarked in general, that in the early stages of the disease, the mouth and tongue are more or less moist, covered with mucus, with increased saliva; and that in its advanced ones, though the patient is harassed with hawking a viscid frothy mucus, the mouth itself is drier than usual. The tongue even becomes clean in some cases and smooth and shining, and at length affected with aphthæ. These last, however, are seldom noticed except when much fever is present, which is a common thing in these periods.

He next speaks of the skin. This becomes dry, is shrivelled, sometimes scaly, cold, and very sensible to changes of temperature. The hair is dry and stiff. Wounds heal slowly, and local diseases of the surface unexpectedly occur. Symptoms often occur, which indicate increased determination of blood to the head.

In the thorax are noticed dyspnoea, dry irritating cough, sometimes palpitation.

‘It deserves notice, that in this stage of the disease, he more frequently complains of pain in the left than in the right side; but the seat of the pain is very various, not unfrequently, it is chiefly in the back about the shoulders, and in the limbs, more frequently in the legs than the arms. It is not uncommon for the muscles of the chest to become painful on motion, and even to the touch. The abdominal muscles also are sometimes affected in the same way. This affection is apt to be worse at night, so that the patient turns himself in bed with difficulty and pain.’ p. 26.

In the following quotation, a symptom is mentioned which deserves attention. We have seen the truth of the concluding remark; and in a recent case the symptom described in the quotation was discovered, with others of what was called hopeless phthisis. A treatment similar to that pointed out in this work in another place, was followed by restoration to health.

‘At various periods of the disease, for the most part after repeated derangement of the hepatic function, comes on a permanent tenderness on pressure, sometimes but slight, of the soft parts close to the edge of the cartilages of the false ribs on the right side, after they have turned upwards to be joined to the sternum. This spot is often very circumscribed and always lies about half way between the end of the sternum and the place at which the lowest of the cartilages begins to ascend; and the cartilage itself near the tender

part often becomes very tender, not unfrequently indeed much more so than the soft parts. The patient in general is not aware of this tenderness till it is pointed out by the physician.' p. 27.

'This symptom,' remarks Dr. Philip, 'never exists long without the pulse becoming hard, and it often at the same time becomes rather more frequent than in health.' He gives directions for feeling the pulse, in order that this character of hardness may be best learnt, and this consists in applying a very gentle pressure to the artery. A considerable pressure gives the feeling of softness, even where the pulse is hard; but by gradually diminishing the pressure, a distinct hardness of the pulse will be felt before the pulse wholly vanishes under the finger, when no hardness can be distinguished in the usual way of feeling it. This state of the pulse and the tenderness of the epigastrium, are considered by Dr. Philip as dividing the disease into two stages; for, whenever they occur, its nature and the treatment suited to it are changed. The symptoms which may now be observed, are those which indicate feverishness. These are chills, followed by languid and oppressive fits of heat; burning in the hands and feet, particularly in the first part of the night; at other times obstinate coldness of these parts; increased thirst, and sometimes partial sweats in the morning. Along with these will be experienced increased inability of exercise. To the tenderness in the epigastrium succeeds fullness in this and the right hypochondriac regions. Pressure, however, over the last occasions rather a sense of oppression affecting the breathing, than pain.

We have now traced the disease through two of its stages, as treated of by the author. These stages are constituted, it will be perceived, the first by the primary symptoms observed in the stomach, bowels, and liver; the second, by the sympathetic affections denoted by the fulness and tenderness of the epigastrium, hardness of the pulse, and feverishness. The sympathetic symptoms, if allowed to remain undiminished, will be found to increase and to become the leading facts in the case. The primary symptoms may even disappear, and organic disease be now developed in parts which were only secondarily affected. Hence it is that on dissection, we not unfrequently find the stomach and upper parts of the bowels natural, while serious lesions will be discovered in the brain, lungs, heart, liver spleen, lower part of the bowels, &c. We are thus brought to the third stage of the disease, and this is constituted by the symptoms of organic disease as existing in the abdomen, the head, or the chest. It may farther be observed in this connexion, that when any one organ becomes more particularly affected it is frequently at the ex-

pense of disease in others, or rather that the latter gradually become healthy, while the disease becomes more deeply seated in the former. Even the occurrence of an extensive external disease is found not unfrequently to restore some vital organ to health, although disease may have made considerable progress in it. We pass over some interesting pathological speculation and inquiry. The following paragraph contains the particular subject of these speculations.

‘Another circumstance which particularly deserves attention, in reviewing the symptoms of the disease which forms the subject of this Treatise is, that what are called, and strictly speaking, are nervous, are apt to run into febrile diseases; injury ensuing if at the period when this change takes place, a corresponding change is not made in the means of cure. Many facts point out, that long continued nervous irritation at length terminates in inflammation of the organ affected. Even an affection, which, in the first instance, is wholly sympathetic, arising from irritation applied to a distant part, will, if severe or long continued, terminate in inflammation of the organ sympathetically affected.’ p. 37.

We have now spoken of the three stages into which Dr. Philip divides indigestion. The relative duration of these stages is very various in different cases. In some, the first is very slowly changed into the second; in others, in men whose habits are irregular, and in those too in whom they are good, the first stage is found to be very much protracted. In the former, when adequate causes operate, organic changes go on with great rapidity, ‘the organs from long continued irritation being, as it were, prepared for the change.’ In the feeble, on the contrary, the second stage soon shews itself. In these, this stage is the protracted one, it being a long time before organic disease is established. Of this last stage, the duration is various, though it seems established that the longer and to the greater degree the causes have operated previous to its formation, the more rapid its progress.

What are the circumstances that dispose the sympathetic disease to affect one part in preference to another?

‘We have reason to believe that this is chiefly determined by different parts in different individuals being more liable to disease than others, and therefore feeling more the cause of irritation which affects the whole system. Thus in children, who are disposed to inflammation and subsequent effusion in the ventricles of the brain, Indigestion often terminates in hydrocephalus internus. From about fifteen to thirty-five years of age, the disposition to affections of the lungs is greatest, and it often produces phthisis. At a more advanced period, a tendency to disease of the rectum prevails, and

in old age to affections of the heart and head, the latter however of a different nature from those to which children are subject; and we still observe the tendency of Indigestion to produce the disease to which the system is disposed, whatever be its seat.

‘These observations seem particularly applicable to the inflammation and consequent organic affection of the feet in gout.’ pp. 45, 46.

The second chapter of this work treats of the causes of Indigestion, and its first section of the process of Digestion. We have room only for the inferences drawn by the author from the experiments he relates.

‘From all that has been said it appears, that the process which the food undergoes in the stomach is that of being formed into a mass, in appearance nearly homogeneous; that this process takes place only on or near the surface of the stomach, and that, in proportion as the food there situated undergoes the necessary change, it is by the muscular power of the stomach moved onwards towards the pylorus, making room for that which next succeeds till the whole contents of the stomach have undergone this process, the digested contents being regularly discharged into the duodenum, as they arrive at this orifice, till most and in some animals all the contents of the stomach are thus removed into that intestine; from which, after they have for some time been detained there, and mixed with the bile and pancreatic fluid, they are continually passing into the adjoining parts of the canal.

‘When the gastric fluid has not a constant supply of fresh food to neutralize it, it is capable, as appears from what has been said, of corroding the stomach itself, after the vital principle of this organ is extinct; from which it appears probable, that the uncombined gastric fluid may produce some effect on the coats of the stomach during life, and various facts would lead us to suppose that the sensation of hunger arises from the action of this fluid. A supposition which seems to be confirmed by the following experiment.

‘A person in good health was prevailed upon to abstain from eating for more than twenty hours, and further to increase the appetite by more exercise than usual. At the end of this time he was very hungry, but instead of eating, excited vomiting by drinking warm water and irritating the fauces. The water returned mixed only with a ropy fluid such as the gastric fluid is described to be by Spallanzani, or as I have myself obtained from the stomach of a crow. After this operation not only all desire to eat was removed, but a degree of disgust was excited by seeing others eat. He, however, was prevailed upon to take a little milk and bread, which, in a very short time, ran into the acetous fermentation, indicated by flatulence and acid eructations.

‘It seems an inference from this experiment, that the pains caused by hunger may be prevented by constantly exciting vomiting; and

the death, which arises from it, converted into that from inanition. People live for weeks without food in fevers, where there is no secretion of gastric fluid.

‘It would appear then that one of the uses of the gastric fluid is, by its action on the coats of the stomach, to remind us when a supply of food is necessary. We have reason to believe from the result of this experiment, as well as from other circumstances, that in man the stomach is capable of propelling the whole of its contents into the duodenum. In a case of Indigestion, I saw orange juice which had remained on the stomach for twenty-four hours, brought up by vomiting, unmixed with any thing, and apparently little, if at all, changed. In this case there is no appetite, and no secretion of gastric fluid.’ pp. 66—69.

The remote causes of Indigestion occupy the second section. These are divided ‘into those which act directly on the stomach and intestines, those which act on other parts, and those which affect the whole system.’ The stomach may be deranged in two ways; ‘either by causes affecting its secreting power, so that the proper chemical change is no longer effected in the food, or by such as debilitate its muscular power, so that the food, though properly prepared as far as it is brought into contact with the proper parts of the stomach, is neither duly so brought, nor regularly propelled into the duodenum.’ Among the chief causes which act directly on the muscular coats of the stomach, the author enumerates opium, tobacco, distilled spirits, strong peppers, acid or putrid matters generated in the stomach, very warm and very cold fluids, violent vomiting, and by far the most frequent and powerful, morbid distention. The causes of this last are noticed very particularly; and we shall endeavour to give our readers an account of the author’s remarks.

The first cause mentioned is *eating too fast*. This becomes a cause of distention in this way: The appetite is appeased only in proportion as the food combines with the gastric fluid, and becomes neutralized by the admixture. This combination cannot take place when food is swallowed with great rapidity; the gastric fluid remains in its original power, and continues the appetite which it was the great agent in producing. When we eat slowly the combination takes place, the gastric fluid which in its free state produced appetite is neutralized, and the desire for food ceases. In support of this reasoning, we are referred to a circumstance of very common experience; the disappearance of the appetite after an interruption of a meal, for ten or fifteen minutes, although not a third of the usual quantity of food has been eaten; and the same thing happens if only a few mouthfuls have been taken a little before the meal, especially

in the delicate and those who secrete but little gastric fluid. The gastric fluid is neutralized in these cases, and the appetite disappears. Frequent interruptions are hence seen to be injurious, inasmuch as the supply would in most cases fall far short of the demands of the system.

High seasoned and greatly varied food is mentioned next among the causes of over-distention. This kind of food pleases the palate, after the appetite is satisfied, and hence either a greater quantity may be taken than the secretions of the stomach can manage, or a greater supply of gastric fluid may be secreted, and the appetite thus be prolonged. The practice of drinking wine at dinner is particularly specified as a powerful agent in prolonging the appetite, and although its indulgence be less injurious immediately, than eating too fast, its ultimate effect is to impair the vigour of the stomach. The stomach is hence not unfrequently found large, and its fibres relaxed, in those who have indulged freely in good living.

The kind of aliment influences the degree of distention. All food appears to swell more or less after being received into the stomach, and that the most which is most difficult in its digestion. This is owing both to its longer delay in the stomach, and its tendency to fermentation when not acted on by the gastric fluid.

Over distention not only injures the muscular fibres of the stomach, it acts injuriously also on the nerves of this organ. In this way it produces pain, restlessness, and oppression. It deranges the secreting functions of the stomach, and its peculiar fluid wants its healthy properties. The food does not undergo the changes incident to digestion, but experiences others. The author rather suddenly leaves the subject in the middle of the paragraph and glances at other causes which may derange the nervous power of the stomach. Such are passions of the mind, &c. In the next paragraph indigestion from mechanical causes, as tumors or indurations of neighbouring parts, are alluded to.

In further treating of the causes of indigestion Dr. Philip, speaks of those which have a more complicated operation. Of intoxication for instance, which not only injures the stomach by an immediate operation on it, but also by its effects on the brain. Moist, cold, and variable atmosphere by its effects on the skin comes to exert an influence on the stomach. Calomel and other powerful medicines which disturb the abdominal secretions affect the stomach. In short such are the sympathies of the stomach, that it readily falls into disorder by the disorders of any important organ. Some causes affect it principally by sympathy, as long continued constipation, diseases and injuries of the head, stone in the bladder, &c.

Among the predisposing causes of indigestion Dr. P. first mentions the slow operations of its existing causes as one ; next changeable weather ; the period of life from puberty to about thirty ; old age, and hereditary disposition.

Section third. Of the immediate causes of Indigestion.—‘The immediate causes of a disease are the states of body induced by the remote causes, and from which all the symptoms more or less directly arise.’ p. 84.

After having dwelt on the importance of a knowledge of the immediate causes of a disease, in regard to its treatment, the author goes on to consider the manner in which debility of the muscular and nervous powers of the stomach produces the symptoms, of indigestion, and remarks that he shall in the first place consider those of the first, and afterwards those of the second stage of the disease. In discussing these interesting questions Dr. Philip enters very fully into the subject of sympathy on nervous influence, the causes in short of parts partaking of the affections of each other, and the following extract contains his inferences respecting the operations of the remote causes of the first stage of indigestion.

‘When the whole of the facts which have been laid before the reader in this and the preceding sections, are kept in view, it seems easy to point out in what way the remote causes of indigestion operate in producing all the symptoms of what I have called the first stage of this disease. The debility induced by these causes on the muscular and nervous powers of the alimentary canal, on the one hand, by preventing the due change on the food, and its due discharge into the duodenum, and progress throughout the rest of the canal, produces the symptoms which immediately arise from undigested food ; and on the other, either by its direct effects in the stomach and bowels, or through the operation of the undigested food and vitiated secretions, excites the nervous derangements which affect these cavities themselves, or other parts.’ p. 99.

The second stage of the disease is marked by a change in character which cannot be referred to the heads above mentioned. ‘The occurrence of tenderness in a certain part of the epigastric region above described.’ This is nothing more nor less than inflammation, which inflammation is attributed to the nervous irritation long kept up in the part which is the seat of the pain, and which opinion Dr. P. endeavours to support by analogical facts in other diseases. The part believed to be the seat of inflammation in the first instance, is the pylorus ; afterwards the part of the liver nearest the pylorus becomes also attacked with inflammation.

'It is evident that of the different parts of the stomach the pylorus is the one most exposed to the causes of irritation. Other parts experience the irritating effects of different portions of its morbid contents, but the pylorus is necessarily exposed to those of all. All must pass by this orifice. When therefore we see that, after indigestion has continued for some time, a certain part of the region of the stomach becomes tender on pressure, we cannot help turning our attention to this part. Now in the natural situation of the viscera, exactly in the tender part of the epigastrium, the pylorus lies, with the thin edge of the liver upon and in contact with it; as I have ascertained with the kind assistance of Mr. Brooks, whose anatomical skill is so generally acknowledged.' pp. 103, 104.

Chapter third. Of the treatment of Indigestion.—This subject occupies two thirds of the volume, and is divided into two parts, that of the first and that of the second stages. 'The first part of the treatment relates to diet and exercise both of body and mind.' The diet should be such in quantity and quality as shall tend in the least possible manner to produce either distention or irritation. The dyspeptic is to eat slowly. His food is to be duly masticated before it is swallowed. He should carefully attend to the first feeling of satiety. His food is to be of a kind that is easy of digestion. Now what articles of food are of the most difficult, and what of the most easy digestion? Acescent and oily articles of food belong to the first class. In the first stage of indigestion, a diet composed principally of animal food and stale bread Dr. P. regards as the best. The following extracts contain useful remarks on the qualities of different articles of food in regard to digestion.

As to age as influencing the digestion of meat, if we except beef and veal, the flesh of old, is in general more easy of digestion than that of young animals. 'From what it arises that mutton is to most stomachs so much more easy of digestion than beef, it would be difficult to say. Most kinds of game are of easy digestion. Fish for the most part less so than flesh of land animals, and as being less nutritious are thought less proper for food in dyspepsia. Meat most mixed with fat, is *cet. par.* most oppressive. Pork and tongues are of this order, and ducks and geese from being so, are the most oppressive kinds of poultry.' 'Turkey is more so than fowl, which next to mutton, is, perhaps, upon the whole the lightest animal food in common use, if the skin be avoided.' 'Of all meat, the lean part of venison is perhaps, the most digestible. Hare and partridge appear to be as much so as mutton.' Eggs are thought light and easy of digestion if eaten soft boiled with stale bread, and in number not more than one or two. The author might have added *fresh laid*,

for as far as we have observed, when old, even though not at all addled, they are peculiarly offensive to a delicate stomach. New bread ranks amongst the least digestible articles of diet. There is fomed of it by mastication a tenacious paste, which is slowly acted on by the gastric fluid. On the same principle, or from the same cause, jellies, and mashed food, as mashed potatoes for instance, are more difficult of digestion, than when prepared by mastication, for the stomach. The saliva combines but imperfectly if at all with the mashed food, and this is a farther cause of the imperfect action of the gastric juice upon it. 'Our food is rendered more easy of digestion by simple roasting or boiling, provided it is not too much done. Beyond this, the art of cookery is nothing but that of pleasing the palate at the expense of the stomach.'

'It is not generally known, that the most concentrated decoction of beef, so far from nourishing, will not, if unmixed with something solid, even allay the appetite. A person under my care was attacked with severe pain of the face when even the smallest quantity of any solid food was put on the stomach, a single mouthful of bread never failed to bring on the attack; and, as he at length refused all solid food, he was confined for some weeks to a strong decoction of beef; but, however strong, and in whatever quantity it was taken, it never relieved the calls of hunger, and he rapidly emaciated.' p. 126.

The circumstance stated in this paragraph is not generally known, nor is it generally believed. The rapid emaciation in this case, and the insatiable appetite, under whatever quantities of beef tea, and of whatever strength, would go to show that under such a diet, death might have taken place, and at no very remote period. Now is it universally true that this species of diet in all individuals has had, or is likely to have this tendency? On the contrary, is it not true that in some countries, or under peculiar circumstances of men, even in health, this sort of diet has been found sufficient for all the purposes of food? If the latter be true, it would seem fair to conclude that in the individual whose case is briefly reported, circumstances existed which prevented digestion and its dependent processes, and that hence, the peculiarity was in the individual, rather than in the food.

Fruits and fresh vegetables. The last are on the whole injurious in indigestion. Peas, beans, cabbage, and waxy potatoes, the most so. Mealy potatoes, turnips and brocoli, least so. Raw vegetables of all kinds are oppressive; lettuce the least so. 'Fruits are also difficult of digestion, particularly the cold fruits, melons, cucumbers, &c. Next the mucilaginous fruits, gooseberries, pears, &c.' 'Apples and strawberries are considered the lightest.' Dr. P. remarks in general on this subject, 'that

we more frequently find peculiarities in the stomach with respect to fruits than other articles of diet.' Preserved fruits are oppressive, and most stomachs bear acids better than acescents.

Of the quality of hardness in articles of food instanced in the first place in bread, it is remarked that there is no objection to hard bread provided it be thoroughly masticated. Meat when hard and tough, and particularly if this be owing to its having been salted or smoked, is of difficult digestion. Butter is spoken of as peculiarly oppressive. It is more so than the fat of meat. 'The fat of mutton is less difficult of digestion than that of beef, and the fat of venison less than either.' As a general remark, fat of all kinds is oppressive. Olive oil is less so than butter, and probably than most kinds of fat. The process of frying renders food oppressive, though an instance is given in which fried bacon was digested pretty well, while mutton was not. Cheese in general is more difficult of digestion than butter or fat; cream and milk in proportion to their richness; 'but the same proportion of cream mixed with water is more digestible than milk.' The final remark on the preparation of food is that much seasoning is injurious. We have the following rules on the subject of drinking.

'The best rules, I believe, which a dyspeptic can follow, are not to yield to every slight sensation of thirst, and when the sensation is considerable, to take but a moderate quantity, and that deliberately, for it is with drinking as with eating, if he swallows with too great rapidity, he will take too much.'

Dr. Philip next treats at some length on fluids, as nutritive and stimulant. He had already decided the question that liquid nourishment alone will not answer the purposes of food. On the mixture of solid with liquid, and the character of broth as a diet, we have the following remarks.

'When nutritive fluids, however, are mixed with solids, although of a less nutritious quality, they afford sufficient nourishment. Strong broth, mixed with bread, or any other solid article of food, is sufficiently nutritious; but it is by no means the form, as appears from what has been said, in which nutriment should be presented to a weak stomach, unless the appetite or irritability of the stomach, as sometimes happens, is such that solid food cannot be taken. The proportion of liquid is too great, if there be much broth in the mixture; and if not, it approaches too much to the nature of a mucilaginous paste, to permit the digestive fluids to pervade it with ease. Thus all kinds of broth are apt to become sour on a weak stomach, and to cause other things to run into fermentation. When liquid nutriment is taken, as soups and broths usually are, before other food, it has the additional bad effect of inducing us to eat too much.' pp. 136, 137.

The importance of adhering to a simple diet in the treatment of indigestion, and the bad effects of variety in food have already been insisted on.

Stimulating fluids. This is an exceedingly interesting part of the inquiry to which Dr. Philip has devoted his attention in the volume under review. Medical men are by no means agreed on the effects of stimulating fluids in dyspepsia, and dyspeptics themselves are here strongly tempted to pursue a wrong course. It is agreed that in most cases the first effects of these substances, or of the strongest of them, distilled spirits, is grateful; a paroxysm being checked by them in one case, or diminished in severity in another. The whole weight of Dr. Philip's argument, however, goes to show that though these may be the primary effect, the ultimate one is positively injurious. The stomach is only more exhausted by the temporary excitement, and the worst forms of the disease are sooner or later induced. Different stimuli produce different effects, and the most important fact in this diversity of effect is, the difference in its degree and permanency. The inquiry is natural then, what stimulating fluids are the most injurious, and are there not some which may even be salutary. On this point the answer of the author is decided, that of all forms distilled spirits are the worst, and pure wine the least injurious. It is in the class of fermented liquors then that we find the best liquids for dyspeptics, who from habit or any other cause have made them necessary to them. Various kinds of fermented liquors are noticed. Malt liquors are condemned, and the strongest, considered among the most indigestible articles of diet. Cider is the best of the fermented liquors of England and of this country, provided the acetous fermentation has not begun. Of foreign wines, port wine, on account of the tonic power derived from its astringency, is considered the best, provided it does not constipate. It should not be drank by dyspeptics however, until a certain age, and as the tartar it contains is offensive to the stomach in some cases, it will agree better when diluted. We quote the following pages because they contain valuable remarks on the comparative effects of distilled spirits, and of wine on dyspeptics and others.

‘Many stomachs seem to feel the bad effects of the distilled spirits, which, it is said, are added to the stronger wines; for even the most objectionable of all the fermented liquors, which have not been distilled, appears to be less pernicious than any of those which have undergone this process. I have known dyspeptics so sensible to the bad effects of the latter, that they have felt an increase of debility for several days after drinking a single glass of spirits and water. This does not arise from its oppressing the stomach, it even for the

time assists digestion, and that, if the quantity taken be not too great, to a considerable degree, a property indeed which belongs more or less to all fermented liquors, though not in the same degree to those which have not been distilled. It is this unnatural excitement that seems to do harm. It is followed by a corresponding debility; and whatever be the change induced by distillation, there are no facts, I believe, better ascertained, than that the same quantity of alcohol in the form of distilled spirits, though equally diluted, both by its immediate operation, gives more temporary assistance to the stomach, and by its secondary effects, hurts it more, than in that of any fermented liquor which has not been distilled.

‘It is thus that many dyspeptics, whose digestion is disordered by all kinds of wine, can drink diluted spirits. But it is impossible by any addition to make their permanent effects similar to those of wine. Those addicted to wine seem often to be destroyed by excess of nutriment. They become full, often ruddy and at least for a certain time even robust, and not unfrequently die of sanguineous apoplexy. Those addicted to spirits, on the contrary, generally become pale, often emaciated, and more or less paralytic; and although both are subject to debility of stomach, obstructed liver, and dropsical affections; the latter soonest fall into those diseases, and in them they make the most rapid progress.’ pp. 143, 144.

Tea and coffee, and the temperature of drinks, will detain us only while we make one remark from the author concerning the latter. Very warm liquids are condemned as injurious. Their effects are in some respects similar to those of distilled spirits, grateful at first, but inducing more debility of the stomach. The temperature should be that of the atmosphere, unless such degree of cold be unpleasant to the stomach, in which case a rather higher temperature may be allowed.

On the number of meals in twenty-four hours we have the following remarks.

‘It has appeared to me, that with the generality of dyspeptics, to take three moderate meals in the twenty-four hours is the best rule. A few find four meals better. The last meal should always be taken a little before bed-time, and should never, particularly after the disease has continued for some time, consist of animal food. The dyspeptic should eat nothing in the intervals of these meals. There is no greater mistake than that he should constantly be taking something. This disturbs the natural process, and entirely prevents the recurrence of appetite, a certain degree of which is a wholesome stimulus to the stomach; by this constant eating becoming more and more debilitated, and every part by sympathy partaking of the debility, the patient wholly misapprehends the cause, and with a view to increase his strength still increases the frequency of his meals, till he hardly passes a couple of hours without eating. By such a

practice, pursued for years, I have repeatedly seen debility of the stomach and a morbid irritability of the whole system established. pp. 150, 151.

Cases however now and then occur, in which the stomach will not bear sufficient food at one time to answer the demands of the body. In these cases these rules must be departed from. 'When it is necessary to eat very often, every care should be taken by recurring, as soon as possible to a better plan of diet, to prevent the habit of very frequent eating being formed.'

In the preceding remarks the author's attention has been confined to the effects of food on the stomach. He next speaks of its effects on the bowels. We may have to contend with constipation or costiveness alternating with diarrhoea. The first may be relieved by vegetable food judiciously employed, and house-hold bread, containing a mixture of rice, previously softened by boiling, though it is contrary to what may be expected, will make the bread aperient. For diarrhoea which is the effect of relaxation, astringents, rice seasoned with cinnamon may be employed. We are cautioned however, lest by adapting the diet to the state of the bowels, the food may come to injure the stomach and increase the disease. To avoid this, the safest course, particularly in constipation, is to make a judicious resort to medicine.

Exercise, as it regards the body and mind. Bodily exercise is considered under three heads; 'that in which the body is moved by its own powers; that in which it is moved by other powers, as in the various modes of gestation; and that in which the circulation is promoted without moving the body, by friction for example, or merely by pressure.' The last is first noticed. Friction may be the only form of exercise the patient may have strength to bear, and in such a case it may be eminently useful. Friction of the abdomen is always useless whatever other mode of exercise may be employed. Exercise will be beneficial in proportion as it may be long continued without fatigue. This leads the author to the different kinds of gestation 'which are often found preferable to those exercises, in which the body is moved by its own powers,' even though the patient has somewhat recovered his strength. Sailing is the gentlest kind of gestation. Next to this is the motion of a carriage. Both of these yield to horse-back exercise where the strength is equal to it. The patient should be cautioned against riding soon after meals. Of walking Dr. P. says, 'walking, when it can be borne for an hour or two without fatigue, is of all exercise the best.' It may be advantageously combined with riding on horseback.

Things to be avoided by the dyspeptic are, late hours; the taking of animal food at a late hour; exposure to the night air. This last is regarded as more pernicious than can easily be accounted for. The dyspeptic should rise early. He should take his first meal as soon as he is dressed. The morning furnishes a portion of time which is more beneficially devoted to exercise than any other part of the day. The body should remain in a state of perfect rest for an hour and a half after breakfast. The time between breakfast and dinner, the hour for dinner being about midway between breakfast and bedtime, is most advantageously devoted to such exercise of mind and body as the patient can well bear. 'The corresponding interval between the second and third meal is better spent in the gentler employments of both; and after the last meal, which should be light, the invalid can hardly go to bed too soon.'

Dr. Philip next treats of the influence of the age and habits of patients as deserving attention in the treatment of indigestion. Sudden changes in long continued habits, even when of the worst orders, are not always safe, especially is this the case when the ordinary state of the individual, his very mode of living is sustained by the indulgence of such habits. A similar respect is to be paid to age, in the treatment of indigestion, should it occur in advanced life. 'Under all circumstances,' says Dr. P. 'at all times of life, the principles which have been laid down must, I believe, be kept in view.'

The medicinal treatment of the first stage of indigestion.

This subject occupies much space in Dr. Philip's work. As medical reviewers, it may have been supposed that much room in this article would have been filled by us with the minute details of a strictly medical course. In our account of it we shall have to compress much valuable matter into very narrow limits. Beginning therefore with the first step of the medical course suggested by Dr. P. we shall offer the substance of what is said of vomiting. When first consulted in a case we commonly find the stomach and bowels loaded. An emetic under such circumstances is proper, and should be followed by a mild aperient. The emetic is not to be repeated though the oppression of the stomach should return soon after the relief which followed immediately on the operation. Gentle stimulants, the distilled waters for instance, and an aromatic tincture may be employed. For acid eructations the alkalies may be given, 'If these symptoms are attended with much debility, a cold surface and sense of sinking, carbonate of ammonia is the best.' When the bowels are languid, magnesia

may be used. Should the bowels be painful, from the irritating qualities of their contents and these means fail, opium, especially if combined with an aperient, is beneficial. Should diarrhœa be present, small doses of opium, and in their failure if given alone, their combination with astringents, are proper means. Should these fail 'the most effectual means, is a pill, composed of opium and camphor, and blistering the region of the stomach.'

In farther treating the subject, Dr. Philip speaks of the means which are best calculated to relieve the patient in the paroxysm, or during fits of indigestion. These means are found in the classes of stimulant and anodyne medicines. Of these are enumerated simple distilled spirits; aromatic tinctures; bitters, astringents, ammonia and its carbonate; camphor; very warm water. Concerning this we make an extract.

'Among the means of temporary relief in Indigestion very warm water holds a higher place perhaps than is generally supposed. To its frequent use we have seen there are the same objections as to other powerful stimulants. It deserves mentioning, although it is difficult to explain it, that a considerable degree of heat applied externally to the region of the stomach is more effectual, provided it be continually renewed, in relieving that kind of pain of the stomach which most frequently attends Indigestion, than any application of heat we can make internally. It is also frequently relieved by heat applied to the feet.' pp 180, 181.

Opium is next mentioned among the remedies which bring temporary relief. Very small doses only are recommended, and of its combinations, that called Dover's powder is thought the best. Antispasmodics, as myrrh, castor, and valerian are also named.

'But it is of much less consequence to give relief in fits of indigestion than to prevent their recurrence. We are now to consider how far medicine can assist the due regulation of diet in effecting this object.' Tonics are first noticed, and of the medicines which belong to this class, Dr. P. first speaks of bitters and astringents. In the employment of bitters regard is to be had to the period of the disease, and to the kind of bitter; some being far less stimulating than the others. All bitters, with perhaps the exception of the bark, are suitable in the first stage of indigestion. In the second the least stimulating should alone be used. Dr. Philip speaks highly of the cold infusion of bark in the earliest periods of indigestion, when it supervenes on debilitated states of the constitution.

The mineral kingdom supplies the best astringent medicines for dyspepsia. Of this class iron holds the first rank. Next to this comes sulphuric acid. The sulphate of zinc holds a distinguished place in this class, but the author thinks that its use requires caution. It may be given at later periods than iron; 'but if its good effects do not soon appear it should be laid aside.' Other tonics that might be named are the mineral acids in general; white oxyd of bismuth; acrid vegetables and sarsaparilla.

In the first stage the use of mercury is thought injurious by the author. Where aperients are necessary, he recommends epsom salts; sulphate of potash and rhubarb; senna, or pills composed of ipecacuanha, extract of colocynth and soap. Of the means which effect the stomach by being applied to some other part, are those which make their impression on the skin. Such are the cold bath; the shower bath; spunging the body with salt water; blisters, and covering the epigastric region with stimulating plasters.

In the progress of the disease it has been seen that a change in the colour of the alvine discharge, takes place. The stomach and bowels no longer continue to bear the weight of disease, but the functions of another organ have become affected by it. This organ is the liver. Along with this change, some change is required in the treatment. Such means are required as will tend to restore health to the liver. These means are found in mercury. In using this medicine two cautions are suggested by the author as deserving attention. We are not to give mercury with a view to its entering the system; and secondly, we are not to continue its use long.

'In the more obstinate cases indeed where the disordered state of the liver constantly recurs at short intervals, it is better for a certain time to give a moderate dose at stated intervals, by which the alimentary canal will suffer less, as a smaller dose is required for the prevention of this state, than for its removal. But even in these cases, this practice should not be long pursued. without trying from time to time how far the powers of the constitution are sufficient without its aid. By these means we ascertain the extent to which it is necessary to carry the use of this medicine.' pp. 199, 200.

In what form shall mercury be employed? This is a point of great importance. Its external use is prohibited; 'for we have no reason to believe, that its action on the skin, can materially affect the liver by sympathy.' And the case does not require its constitutional agency. All that is required is its

‘sympathetic effect on the liver during its passage through the alimentary canal.’

‘There are two forms in which it is usually given, calomel and blue pill. The former being the most aperient, it is a good general rule to give it when the bowels are most languid, and the blue pill, when they are more easily excited. But this is not the only property in which these preparations differ. The blue pill is generally most oppressive to the stomach; the calomel most irritating to the bowels; although, in some cases, I have seen the former, in very delicate subjects, from its being less cathartic, and consequently, for a longer time, hanging about the bowels, if I may use the expression, more irritating than calomel.’

‘For the same reason, small doses of calomel, a quarter, or half a grain, are often more irritating than two or three grains, which more quickly pass off; and the irritation of the bowels is most effectually prevented by taking an opening draught some hours after the calomel. With most people, this is not necessary when the blue pill is taken, its continuance in the bowels generally giving less uneasiness’ pp. 201, 202.

Calomel thus seems to be the form of mercury most appropriate for the most recent cases, the blue pill for those which have lasted some time. Dr. P. has met with cases of the latter which would not bear the blue pill even in the smallest doses. In these small doses of calomel become necessary, and if the medicine irritates it should be combined with anodynes.

‘It also deserves particular attention in the choice of these means, that the most beneficial use of calomel necessarily occasions brisk purging, on which the benefit derived from it often greatly depends; while, by its peculiar effect on the first passages, it excites a better action of the liver, by its purgative effect, as well as by that of the draught which its exhibition renders expedient; it tends further to emulge the gallducts, and relieve the distended state of the liver.’ p. 204.

The occurrence of dysenteric symptoms under a protracted course of mercury, and the substitution of some of the mineral acids, and the dandelion, where mercury seems peculiarly unfriendly in its effects, are glanced at at the close of this section on the treatment of the first stage of indigestion.—This section is concluded with the following remark.

‘The treatment of the first stage of Indigestion, then, consists in promoting the due action of the stomach and bowels, by the various means which have been detailed, and correcting the secretion of the liver, if it deviates from the healthy state, by the occasional use of mercury; care being taken neither to employ it in greater quantity, nor for a longer time, than is necessary for this purpose, as its effects on the stomach and bowels are evidently in opposition to the other parts of the treatment.’ pp. 208, 209.

In the second section of this chapter, we have the treatment of the second stage of indigestion. The symptoms that characterize this stage are 'the epigastrium becoming tender on pressure, the pulse hard, and some tendency to fever supervening.' In fewer words, an inflammatory tendency, in the words of the author or inflammation itself is superadded to the derangements that mark this stage. The period at which this change takes place is various; it does not happen in the majority until some time after the disorder in the functions of the liver has occurred, which has already been noticed. It is to the inflammatory tendency, or to the existing inflammation that we are to have an especial regard in the treatment of the third stage. In the first place stimulating tonics are to be laid aside. Some tonic will be a necessary adjunct to the treatment, but the most simple must be selected. A temptation to use the most powerful ones and in increasing quantities will be found in the increasing debility and in the temporary relief they may afford. They are, notwithstanding all this, to be cautiously avoided. Similar remarks are made respecting the use of purgatives and mercurials. The opinion is a common one, both with patients and with many medical men, that this class of remedies is the most useful one not only in the advanced but even in the early stages of the disease, 'unless,' says Dr. P. 'I have been deceived by a pretty extensive experience of the phenomena of this disease, there is no stage of it to which this conclusion is applicable.'

Notwithstanding the changes which have been effected in Indigestion during its progress, so much of its original character still remains as to demand consideration in the treatment. We have a state of exhaustion present different from that which might attend the same amount of inflammation, were this to have occurred under common circumstances. It would not be safe then to adopt a strictly antiphlogistic course. We are obliged on the contrary to combine a somewhat tonic treatment, to husband the remaining strength, with the antiphlogistic methods which the case may require.

In entering into a more minute detail of the treatment, Dr. Philip first speaks of the application of leeches to the tender part of the epigastrium. The beneficial effects of their use is an additional argument with the author in support of his opinion of the seat of the disease, and the cause of the symptoms in this stage. When this stage has been but of short duration the relief has been so great from their application, that the treatment of the first stage has been adopted with the best immediate effects, and ultimate cure. Where the disease however

has been of long standing, this has not been the case. The relief from the leeches has indeed been experienced, but the tonic course though managed never so cautiously has been attended by a return of the tenderness of the epigastrium. The leeches have thus again become necessary. 'Each repetition to the same extent generally produced less relief than the preceding, and if a larger quantity of blood was taken, relief was obtained at too great an expense of strength.' Benefit under these circumstances was found in the use of blisters after the leeches. To sustain the strength, the lightest bitters, the least stimulating meat, and very moderate quantities of wine were in some cases necessary. In others a diet wholly vegetable, and without wine answered the best purpose. 'It has generally been found better however to obviate the inflammatory tendency by medicine, than to adopt so low a diet as very essentially to reduce the strength.' The medicine found best adapted by Dr. P. to this purpose is the nitrate of potash, say ten grains in an ounce and half of water with a twelve or sixteenth part of mucilage of acacia, given three times a day or oftener as the feverish symptoms might indicate. Great caution is required in the management of the bowels, and should constipation be obstinate, evacuations are to be produced with as little waste of strength as possible. The case is not to be treated by purgatives. Should the inflammatory symptoms continue to recur after a fair trial of these means, a perpetual drain in the most tender part, is often followed with the best effects.

The treatment of this stage of Indigestion by mercury is next considered. What has been said on this subject is cautionary. Not that the use of mercury is discouraged at all, but that when used it should be given in very small doses, and its effects carefully watched. From half to a whole grain of the blue pill two or three times in the twenty-four hours, is the method prescribed and with much confidence by the author. When it produces irritation, its combination with extract of hyoscyamus in quantity of a grain of the latter has been found highly useful. When the blue pill is not borne well, a sixth or eighth of a grain of calomel has been substituted for it with some anodyne, 'but this preparation is not so well suited to the objects in view.' Mercury constitutes however but part of the treatment. Cathartics, local bleeding, blisters and cooling medicines, hold the same place in the medical course as if mercury were not employed. They are even more important in the cases in which mercury may be resorted to, as it is in such that the symptoms are most obstinate.

Dr. Philip next speaks of the substitutes for mercury in the treatment of Indigestion. The best of these are the mineral acids, particularly the nitric and hydrochloric acids, and the dandelion. On this subject we have room only for two or three general remarks, viz. that it is to the first and second stages of the disease, these substitutes are more peculiarly adapted; that the acids used whether externally or internally, are 'best adapted to cases of some continuance, where the inflammatory tendency has been to a great degree subdued, and small doses of mercury have been employed without the usual benefit.'—'In such cases, the use of the acids will almost always be found better, than increasing the quantity of mercury beyond what produces the slightest indication of its presence in the gums;' and finally, of the dandelion, that it requires to be taken in very large doses, in strong decoction, and as common drink, and 'is best adapted to those cases, in which the bile is deficient or much disordered, while the power of the stomach is still considerable.'

A period of the disease is next considered which has a good deal in it to interest us. Dr. Philip has not devoted many pages to its consideration. It is not of very common occurrence in the first place, and it is noticed here rather with a view to its treatment, than for particular description. It seems to be a *transition* state of the disease, to borrow a term from another science, and is characterised, by the disappearance, in a great measure, of any leading local symptoms, which may have existed, and the occurrence more particularly of general and obstinate debility; 'the various organs which have from the first suffered by sympathy having their powers more permanently impaired, the disease gradually assumes the form rather of a case of general, and for the most part, obstinate debility, than a disease of any one set of organs.' It is not uncommon at this time to find the digestive organs relieved, and the patient expresses himself surprised that he should feel so weak while the state of his stomach seems so much improved.

Notwithstanding the marked relief of the symptoms proper to this stage of Indigestion at the period now alluded to, those symptoms are not entirely wanting; some hardness of pulse will still be detected and some uneasiness of the epigastrium will be experienced on pressure. In the treatment of this state the temptation is to continue the use of that medicine under which particular symptoms have yielded, or to renew it, should the state itself have occurred at a period more or less remote from such relief. The medicine referred to is mercury. The author offers many reasons against the continued or renewed use of this medicine under the supposed circumstances. In

ARTICLE VII.

Observations on the Incurvations of the Spine arising from softness of the bones, and on their Treatment, particularly in regard to the female sex : and some remarks on Abscesses of the Hip-Joint, and on Incurvations of the Spine from the carious vertebræ. Extracted from the Lectures delivered before the Royal College of Surgeons in London, in the summer of the year 1820. By JAMES WILSON, F.R.S. Professor of Anatomy and Surgery to the College ; Lecturer on Anatomy and Surgery at the Hunterian School in Great Windmill Street ; and one of the Vice-Presidents of the Medical and Chirurgical Society in London. London : 1820. pp. 91.

THE reputation of the late Mr. Wilson* is so well established by the works he has published, that it may be safely referred to as a motive for offering our readers a full analysis of his various writings. To give such an analysis will occupy so much space in the Journal, that the greater portion of it must be reserved for future numbers. We shall confine ourselves at this time to an account of the little volume, the title of which is placed at the head of this article.

Mr. Wilson begins with 'general observations on the human skeleton, and on the particular situation and connexion of the spine, pelvis, and thorax.' In this part of his work the author gives a general history of the bones of the trunk. He dwells particularly on their arrangements and purposes ; their individual

* Mr. Wilson died very suddenly the 17th of November, 1821. The following short sketch of his life and character is extracted from the April number of the Edinburgh Medical and Surgical Journal.

'This valuable man's life was thus terminated at the age of about 56 years. His father, who is still living near London, placed his son, about the year 1784, with the late Mr. Cruickshank, the celebrated anatomical successor of Dr. William Hunter, under whom he was so well instructed, as to fully equal any teacher of anatomy in London. Mr. Wilson was many years assistant to Mr. Cruickshanks, on whose death, nearly twenty years ago, he became the teacher in the Windmill Street School, founded by Hunter. Mr. Wilson's minute knowledge of anatomy was well known ; he had perhaps no equal in forming anatomical preparations, on which his labours were astonishing. He was esteemed by the profession as one of the most judicious practical surgeons of his time ; and was in great request with the public. Mr. Wilson's amiable manners and friendly conduct to many persons, procured him the good offices of many wealthy families. He was appointed lately professor of Anatomy to the College of Surgeons. The lectures which he there officially delivered, are now published. If they do not abound with novelties like those of some of his brother professors, it is allowed that they are inferior to none in utility and display of judgment. This honourable man has left a widow and three daughters, beloved by all who know them ; likewise a son, Dr. James Arthur Wilson, who has distinguished himself at Oxford, and obtained, a few months ago, the Ratcliffe Travelling Fellowship.

connexions with each other and their more general relations. He has examined with much care the various modes by which particular bones, those of the spine for instance, are connected, and the admirable contrivances for effecting a great variety of purposes, with the most perfect convenience to the individual. He does not give us minute anatomy, but a philosophical view of the parts involved in his inquiry in their most healthy state; such an account of them as enables us to understand what will be the effects of disease when it attacks them, and the reasonableness of the practical methods by which he proposes to prevent these effects taking place. The particular occasion which led to the composition of his work, and the circumstances under which it was first made public, have given a literary character to it which medical compositions expressly made for the press rarely receive from their authors. Occasion is frequently taken to speak of the admirable and beautiful contrivance manifested in the structure and arrangements of the parts treated of, and something more than a mere professional interest is in this way given to the inquiry. It would afford us much pleasure to have given our readers an analysis of this part of the work, and to have extracted a good deal from it. But what is so purely descriptive and so closely connected together would have been injured by selection, and it would have been impossible to give the whole of it.

'On Rickets.'—This disease arises from a deficiency in some of the materials which should enter into the composition of bones. In this disease the bones become softer than in health, and in very young children they become enlarged at their extremities near to the joints. It is a disease of the early periods of life; occurring even in the foetus in utero. The most usual period of its occurrence is between the 7th and 8th months, and the end of the second year. 'I have known it' says Mr. Wilson, 'make its primary appearance after this time. It not unfrequently affects the spine a little before the period of puberty, and it will also do this long after that period has passed. When it takes place after puberty, its effects are indeed usually confined to the spine, and considerable lateral incurvation of the vertebral column is produced in both sexes, but much more frequently in the female than in the male.'

The causes of the softening of the bones in rickets are next inquired into. Among others, deficiency of power in the arteries to secrete the phosphate of lime from the blood, is mentioned. To this, Mr. W. is disposed to give his assent. 'All these circumstances,' he remarks, 'give greater probability to the opinion which presumes that the arteries of bones are deficient

in the power of separating the phosphate of lime from the blood, so as to deposit it in sufficient quantity in their substance, than that any deficiency of this material exists in the body.' It is generally believed, that rickets does not attack the teeth. A well marked case has been met with by Mr. W. in which the bony parts of the teeth were much softer than usual, although no external marks of decay were present.

As far as the bones are concerned this disease appears to arise from a deficiency in the deposit of the phosphate of lime. Thus in the cancellated bones, this is met with in so great a degree that they may be cut with a knife. The age of patients has a decided influence on the symptoms. In young children certain constitutional symptoms indicate the existence of the disease, while in adults it is marked more by the local affections it produces.'

The following may be observed in very young subjects. 'The digestive powers are diminished, although the appetite is often good and even voracious; the belly is swelled, there is a great degree of flatulency; from the absorbent mesenteric glands being usually enlarged and in a scrophulous state, the absorption of the chyle is not perfectly accomplished; the body becomes emaciated, and the muscles more lax; the countenance however is lively, the eyes are bright, and the intellectual powers of the child generally appear beyond what are usual at its years.'

'As the disease proceeds, the skin appears dry and scaly, the teeth become black and decayed; the weight of the body cannot be supported in any position without producing curvatures of the bones; the natural functions of the internal organs are interrupted, the lungs become tuberculated and consumptive, and hectic symptoms arise which are terminated by death.' Mr. W. next speaks of the danger to life from rickets. This arises from the number and situation of the bones affected. Deformity can seldom be prevented. He regards it as a disease of debility. Efforts are frequently made by the system to check its progress. These should be watched, and the auxiliaries of art employed. The disease may not only stop under these means, but the bones which have become crooked may even become perfectly straight again. Of such cases Mr. W. has seen many in patients between 5 and 12 years of age. In alluding to the treatment in this place, which is done in very general terms, our author particularly mentions cold bathing, and refers to Dr. Wm. Hunter on this point. Dr. H. recommends cold bathing, either salt or fresh, the first when accessible, as the very best means of checking the disease. 'The children, he observed, should be dipped daily, and only once at each period; they should be dried quickly, and friction by coarse linen or flannel should be applied to their back and

limbs for a considerable time afterwards ; that great attention should be paid to their breathing pure air of a regular temperature, to cleanliness, to wholesome food, and to the state of the digestive organs. Let me add, that I have seen this system acted on in many cases of rickets, in all with some, and in most with very decided advantage to the patient.' The immediate effect of the cold bath thus used is to produce a healthy glow.

Effects of Rickets. Mr. Wilson first mentions the effects of this disease as they occur in the bones generally ; and, in the next place, speaks particularly of *incurvation of the spine*. In regard to the means ordinarily employed to remove deformity from the bones of the extremities, we have the following remarks.

‘Many instruments have been invented to remove pressure from the bones of the extremities, and some of them are very judiciously contrived to produce that effect ; but every surgeon must use his anatomical as well as mechanical knowledge in their application ; for, when resorted to without this knowledge, they will often, indeed almost always, prove more injudicious than beneficial. In very young children, instruments should never be applied to the limbs ; they cannot be either necessary or useful, and by their weight, and by preventing exercise, they must tend to increase the general debility, and thus do much harm : their application, therefore, should be deferred until the bones of the trunk possess some firmness, and then be made only in cases where the larger bones of the limb, as well as those of the trunk, are hard enough not to be injured by their additional weight, and the pressure necessarily made by them in correcting the distorted shape of the bones below.’ pp. 43, 44.

On incurvations of the spine.

‘Incurvations of the vertebral column are of two kinds : one arising from rickets ; in this the bend is usually to the sides ; the other from caries of the bodies of the vertebræ ; the bend in which is forwards. It is to the first of these incurvations that the following observations are intended to apply.

‘In females, before and sometime after the age of puberty, the spine not unfrequently inclines to one side, and does so without any of the other bones exhibiting a rickety disposition. In a constitution merely weak, the habit of remaining long in some particular leaning attitude will often bring on this inclination, and in a rickety one will always produce it. Thus a young person, devoting much time to learning an art, the exercise of which requires a peculiar position of body, as playing on the harp, the bones being soft, the sides of the vertebræ which are the most and longest pressed on become thinner, but project further outwards from the circumference of the column ; while those which are less pressed on increase in thickness : there is no partial deficiency of the phosphate of lime on

male may involve the most serious difficulties. Mr. Wilson has examined very many cases of incurvated spines in poor women who could not get instruments in ordinary use for removing the deformity, and in these the *pelvis* have been found well formed, and living children have been born. The spine has in these cases been considerably and incurably incurvated. Of other individuals who were known to have used expensive machines, Mr. Wilson remarks, 'In all these, and in other cases, where, from similarity of appearance, I could not doubt but that instruments had been used, I found the bones of the pelvis irreparably injured, by having yielded to the additional burden thrown on them where they never were intended, and therefore were not calculated, even in a healthy state, to bear much weight.' Those instruments which are not fixed to parts belonging to the body, but to chairs, the ceiling of the room, &c., are thought better of by Mr. Wilson, and the good effects of the recumbent position on a horizontal plane for a certain time each day are mentioned. 'When seated, the chair may have an upright back, but no elbows or arms to it; for these would form a partial rest, which might prevent the muscles of the spine from being called into equal action; and it is by this equal action the cure is to be produced.'

Mr. Wilson in the next place introduces the method of treating these cases employed by Mr. Grant of Bath, and acknowledges his obligations to him for having suggested to him a mode of treatment which he has uniformly found so useful. This method has for its basis the regular and uniform action of the muscles belonging to the spine. The following extracts contain the author's account of the treatment, and the motives for persevering in its use until its objects are realized.

'The simplicity of the means of cure I have, however, found to operate against a fair and sufficiently long trial of the plan being given. Some benefit has been received at first, with which the patient and relatives have been contented, and have not persevered longer than to arrest the progress of the incurvation; the bend has again increased; but on returning to the plan and persevering in it, a cure has still been effected. It is, therefore, necessary that the principle of the treatment should be fully understood by the patient and by those to whom the superintendence of the plan is to be intrusted.

'This principle I have found to be soonest made intelligible to those who are not possessed of much anatomical knowledge, by the following illustration; viz. if a finger is held up, and bent a little, a weight being placed on its tip, either will bend it completely, or oblige it to straighten itself so as to be enabled to bear the weight

when applied perpendicularly. Thus the spine being bent in one or more directions, when a weight is added to the head, it directly and almost instinctively, by the action of its own muscles straightens itself to bear that weight; and this action often renewed, and the position produced by it persevered in for a moderate time, will recover the spine from the bend that otherwise must necessarily have increased; or should an attempt have been made to remove the curvature by instruments applied to the pelvis, their weight, and that of the body, must have altered and distorted that important part, the perfect shape of which is necessary, not merely to the symmetry, but to the life of the mother, or to the existence of her child at the period of its birth.

‘The weight should be used in the manner following: a small footstool, covered with a flat cushion, being inverted, may be placed on the patient’s head: the hollow between the feet of the stool will allow of some substance, varying between four and ten pounds in weight (for it may be necessary to increase it to the last amount, although much less is generally sufficient), to be placed in it: the patient should be instructed to raise this footstool with both her arms, and support it on the crown of her head, elevating the spine at the same time towards the stool while held over her head; she then, preserving the most erect attitude she can, should walk in a straight line as soldiers are taught to march, and for a time not exceeding ten minutes; this should be repeated occasionally during the day. By degrees she will learn to balance the weight, and this regular exertion giving the muscles their true action, will straighten the spine much more effectually and sooner than any mechanical instruments would effect.’* pp 54, 55.

Disease of the Hip-Joint.—We have room only for the following extracts. We have selected these, because they contain valuable practical remarks on the circumstances which should govern the practitioner in continuing or removing the setons and issues which are established in the treatment.

‘I shall not here discuss the question, whether the advantage derived from setons and issues, proceeds from the counter irritation, or from the drain which is established. They certainly on many occasions have been found to give relief before suppuration had taken place in the part. It is possible, however, that they may be persevered in beyond the period of their doing good; and, therefore, in those cases where manifest advantage arose from them at first, when, although the joint has been kept in a state of perfect rest, the symptoms of the disease re-occur, it is often necessary to discontinue their application. In several instances, I have known

* Instead of an inverted footstool, I have found that a flat bag of a circular shape, made of leather or strong Holland, and filled with small shingles from the sea shore, answers better than any other contrivance I have yet met with. When shingles cannot be procured, dried pease or rice may be used.

that the progress of the disease has been again arrested by their removal.

'A gentleman, about twenty-four years of age, had complained for nearly two years of a pain, sometimes in the joint of the hip and sometimes in that of the knee, and which latterly had increased in the hip to that degree of violence that he could not suffer his foot to touch the ground. I recommended perfect rest in the horizontal position, and introduced a seton into the groin; I also applied a caustic behind the trochanter major. In seven weeks all pain had left him, and he gradually recovered the motion of the joint. On a slight recurrence of the pain, arising from having used too much exercise, a blister was applied to the nates; but the pain soon became so excessive in the joint that the blister could not be continued; the pain was lessened upon its removal, but did not entirely cease. The seton was then withdrawn, and the issue healed up in a few days afterwards; the pain not only ceased, but the patient has remained well ever since, and can attend to his farming concerns on horseback, for hours, without inconvenience.

In a lady about forty five years of age, who was the mother of several children, so much pain and inability of motion occurred in the hip-joint, that she had not, when I was consulted by letter, been able to leave the horizontal position for some months. I recommended a seton to be inserted behind the trochanter major; this was done. In a few days the pain became much less. The seton after some weeks' insertion was removed, and a return of the pain soon followed. A second seton was inserted near the groin, which on its first introduction was attended with success equal to the former. It was continued for two months, and for seven weeks of that period the patient appeared to be recovering; the seton then became violently painful: the pain also in the hip again came on, and increased to intolerable anguish; I therefore recommended the removal of the seton; and within twelve hours after its removal, the pain, both in the groin and hip, subsided. This happened about a year ago. The lady can now walk, with the help of crutches, without feeling pain; but the thigh is bent forwards, and ankylosed in that position. No fluid was felt in this case, nor did any appearance of suppuration of the cavity of the joint occur, although the symptoms strongly marked an absorption of the articular cartilages.' pp. 74—76.

Incurvations of the spine from caries of the Vertebrae.—This makes the last division in this work. In the following passages, Mr. Wilson points out some means for detecting spinal disease, and the circumstances which mark the difference between symptoms produced by the effects of this disease on the spinal marrow, and those which arise from true palsy.

'I shall here only observe, that in a true paralysis the muscles are soft, they have a flabby feel, and scarcely seem to have a dis-

position to contract; the joints, upon external force being applied, are easily moved in every direction; there is no rigidity or stiffness in the limbs, nor any disposition for them to be drawn in one direction more than in another. But when the disease arises in the bones, and affects the spinal marrow, although from want of exercise the muscles are shrunk, they are much firmer to the touch, and appear to be more in that state of contraction into which their tone would throw them. In consequence of this the knees and ankles are stiff, and the legs and thighs are often rigidly retained in a particular position: this may be either straight or bent. The foot is generally extended, so that the heel is drawn up and the toes pointed downwards; this last, indeed, forms a very characteristic symptom of the disease.

‘Its first attack is often attended, by the patient (either child or adult) becoming languid and very soon tired if obliged to stand or walk. He is observed also frequently to stumble or trip. The legs are often involuntarily drawn across each other, so that the person is thrown down; the knees totter and bend under the weight of the body, and he finds that he cannot, with any precision or certainty, give his feet a determined direction; he feels also a want of power in bending the body backwards; when in bed, he finds a difficulty in turning, and when seated, the legs are almost constantly drawn across each other. When the pressure is in the neck, the head cannot be supported, therefore is generally leaned on a table or chair; the arms are also affected, so that numbness and loss of voluntary motion, to a greater or lesser degree, take place in them; and there is much difficulty of breathing.’ pp. 86, 87.

After some general remarks respecting the treatment,—the extreme importance of the recumbent posture,—and the utility of employing instruments which act by extending the spine, *provided anchylosis has not taken place*, the author thus concludes the work:

‘In almost every stage of this disease I have witnessed very favourable effects from caustics applied, or setons introduced on each side of the projection of the spine. It must be owned, however, that sometimes we are disappointed in the benefit we have had reason, from the result in other cases, to expect from them; but we have no other means of cure so certain, and that they are not specifics in the cure, should not be urged against a fair trial being given to them. In one of the most unpromising cases for which I was ever consulted, where a child of five years old was bent nearly double, where the limbs had become useless, and the power of retaining the urine and fæces had been lost, and in fact where death was daily expected, by the suggestion of Doctor Baillie I applied extensive caustics on each side of a projection made by the middle dorsal vertebrae, and in six weeks after that period the child was able to walk round the room with the help of two sticks; in two

months to walk half a mile on crutches ; and in less than six months, no disease nor any inconvenience more than what arose from the curve remained. The person is now alive, although seventeen years have elapsed since the use of the caustics, and has had during that time uninterrupted good health. I mention this as a case remarkable for the degree of health the person has enjoyed. I could relate several others, where the caustics or setons have proved successful, but many of such cases have already been published in various works.

‘ When matter forms, and works its way to the groin, to the upper part of the thigh, or to the loins, and then bursts through the skin, all that we can do is to let the orifice heal as soon as possible after the pus has been discharged, and to open the abscess by a puncture with a lancet when it again points, or to evacuate the matter through the canula of a small trocar ; no good can arise in such case from any extensive opening, nor will the abscess heal permanently until the disease in the bone is cured.’ pp. 89—91.

SELECTIONS.

On the Nerves : giving an account of some experiments on their structure and functions, which lead to a new arrangement of the system. By CHARLES BELL, Esq. Phil. Trans. Part II. for 1821.

[From the London Medical Intelligencer.]

THE object of Mr. Bell’s researches, detailed in this paper, is to account for the complication of the nervous system, to demonstrate the uses of its numerous plexuses, and to unravel the intricacy and apparent confusion which the distribution of the nerves has given rise to.

The difficulties connected with this subject will only be increased as long as the nerves are supposed to proceed from one great centre, and to have the same structure and functions ; to be all sensible ; and all of them to convey what has been vaguely called nervous power.

In carefully examining the nerves in the human body, and comparing them with those of other animals, Mr. Bell was led to observe a decided coincidence between the number of organs, the compound nature of their functions, and the number of

nerves transmitted to them. An organ which possesses only one property, is found to have but one nerve, however exquisite the sense or action may be ; but if two nerves, coming from a different source, are sent to one part, this is a sign that such an organ or part, performs a double function. Two or more nerves going to one organ, do not produce a mere accumulation of nervous power, but impart distinct faculties to the organ, in proportion to the number of nerves which it receives. In animals, for example, which do not breathe, the mouth having only one function to perform, is supplied with one nerve only. If the throat has no complexity of organization and function, it has no variety of nerves ; but in exposing the nerves of the throat, tongue, and palate, in the human subject, we shall find the branches of five different trunks of nerves ; a circumstance which appears unaccountable till we consider the multiplied offices of the mouth, in man,—that it is a pneumatic as much as a manducatory organ : the organ of voice and of speech, as well as of taste and exquisite feeling.

The nerves of all animals may, therefore, be divided into two classes : the one simple and uniform, common to all animals, from the worm upwards to man, and supplying those parts which are necessary to life and general motion : the other irregular and complex, added to the first class, and corresponding to the number and complexity of the organs which we find superadded as the animal advances in the scale of being.

In those animals endowed with mere sensation and locomotion, the first class constitutes the whole of the nervous system, and consists of two cords running in the length of the body, with branches going off laterally to the several divisions of the frame. There is the same system of nerves in the human body, with the addition, however, of other nerves belonging to the second class, corresponding to the complexity of the organization in man. The spinal nerves, the sub-occipital, and the fifth pair, or trigeminus, constitute this original or symmetrical system. All the nerves of this class agree in these essential circumstances :—they have all a double origin,—they have all ganglia on one of their roots,—they go out laterally to certain divisions of the body,—they are all muscular nerves presiding over the voluntary muscular motions : are exquisitely sensible, and the source of sensibility ; and are universally distributed over the body.

The nerves of the second class, as enumerated by Mr. Bell, are the third, the fourth, and the sixth pairs, the seventh, the eighth, the ninth, the glosso-pharyngeal, the accessory of Willis, and the external respiratory nerve. These are distinguished by a simple fasciculus or small root ; they are imperfect in their

origin, and irregular in their distribution, and deficient in that symmetry which characterizes the first class. All these nerves are superadded to the original class, and correspond to the number and complication of the superadded organs.*

The experiments which are brought forward in the present paper in support of these views of the nature and functions of the nerves, are hitherto confined to the nerves of respiration, which, according to Mr. Bell, form a system of great extent, *comprehending all the nerves which serve to combine the muscles employed in the act of breathing and speaking.*

When we view the phenomena of ordinary respiration, of laborious breathing, and of the various modifications of this action,—coughing, sneezing, speaking, and singing,—we must admit that the number of muscles employed in the act of respiration is immense. Not only the diaphragm and intercostals are excited, but the muscles of the shoulders, the throat, the mouth, and the nostrils, keep time with the motions of the chest. Mr. Bell, therefore, conceives that there is no impropriety in speaking of the respiratory nerve of the face, of the neck, and of the shoulder. And as the muscles of the face in man, and in many animals, receive two distinct pairs of nerves, he considers them as affording a good opportunity for showing the results of dividing one of these nerves, and illustrating the doctrine he has advanced.

The nerves of the face are, the *trigeminus*, or fifth pair of Willis, and the *portio dura* of the seventh, which he calls the *respiratory nerve of the face*. To ascertain and demonstrate the respective actions of these two sets of nerves, Mr. Bell had recourse to the following experiments:—

1. An ass was thrown, and its nostrils confined for a few seconds, so as to make it pant and dilate the nostrils forcibly; the *portio dura* was then divided on one side of the head, when immediately the motion of the nostril of that side ceased, while the other nostril continued to expand and contract in unison with the motion of the chest. On the division of the nerve, the animal gave no sign of pain, and on being untied, and corn and hay presented to him, he eat without the slightest impediment.

2. In another ass, the superior maxillary branch of the *fifth* pair was exposed. Touching this nerve gave acute pain; but on being divided, no change took place in the motion of the nostrils; the cartilages continued to expand regularly in time with the other parts which combine in the act of respiration, but

* We have taken the characters of the two classes of nerves from Mr. Shaw's excellent *Manual of Anatomy*.

the side of the lip was observed to hang low, and it was dragged to the other side. The same branch of the fifth was then divided on the opposite side, and the animal let loose; but he could no longer pick up his corn; the power of elevating and projecting the lip, as in gathering the food, was lost. To open the lips, the animal pressed the mouth against the ground, and at length licked up the oats with his tongue.

The influence of the portio dura, or respiratory nerve of the face was further demonstrated, when the animal was killed, (which was done by bleeding,) by the negation of its powers on the side of the face where it was cut. It is well known that when an animal dies from loss of blood, the respiratory organs are thrown into powerful convulsive actions, which are not confined to the immediate muscles of respiration, but to those at a distance, which sympathize with them,—the muscles of the mouth, nostrils, and eye-lids, and all the side of the face being in a violent state of spasm. In the ass, where the portio dura was cut, the most remarkable contrast was exhibited on the two sides of the face; for while the one side was in universal and powerful contraction, the other, where the nerve was divided, remained perfectly placid. When carbonate of ammonia was put to the nostrils of the ass, whose respiratory nerve had been cut, that side of the nose and face where the nerves were entire, was curled up with the peculiar expression of sneezing; while, on the other side, where the nerve was divided, the face remained quite relaxed, although the branches of the fifth pair and sympathetic were entire.

From the result of these experiments it is concluded, that the portio dura of the seventh, is the respiratory nerve of the face; and that the unison of action existing between the muscle of the eye, nose, face, throat, and diaphragm, in the actions of sneezing, coughing, &c. is effected solely through this nerve, and not, as has been heretofore supposed, through the great sympathetic.

These experiments, and a variety of facts detailed in the paper, which we are sorry our limits prevent us from stating, likewise prove, that the portio dura, or respiratory nerve of the face, is also the grand nerve of expression, or indications of passion, while the branches of the fifth pair going to the face, are the source of sensibility only.

At the close of this paper Mr. Bell proceeds to notice some of the practical conclusions to which this investigation is calculated to lead. The inference that the two sets of nerves distributed to the face have distinct functions, must of itself prove useful both to the surgeon and the physician. To the

surgeon it must be useful in performing operations on the face, as well as in observing the symptoms of disease. The physician will be better able to distinguish between that paralysis which proceeds from the brain, and that partial affection of the muscles of the face, when, from a less alarming cause, they have lost the controlling influence of the respiratory nerve.

We have already extended our notice of this interesting paper beyond our usual limits, but before we take leave of the subject, we must notice one more of the author's practical inferences, considering it particularly useful in forming our prognosis in affections of the lungs in infants and children, who are not capable of expressing their feelings, as well as in the cases mentioned by the author.

'There are conditions of the lungs, when the patient is in great danger, and yet the inflammation is not marked by the usual signs of pain and difficult motion of the chest. We shall see nothing but the twitching of those muscles of the face, which are animated by the respiratory nerve. We see a certain unusual dilatation of the nostrils, and a constrained motion of the lips, which, with the change of voice, is just sufficient to give alarm, and indicate the patient's condition. This is a state of the lungs very often produced after severe accidents, as gun-shot wounds, and after great surgical operations.'

Unparalleled Instance of Suicide by Voluntary Starvation.

[From the London Medical Intelligencer.]

'LUC ANTOINE VITERBI was condemned to death as an accomplice in the assassination of Frediani, a crime which he denied to the last moment, and appealed against a sentence passed upon him by a court composed of his personal enemies.

'Towards the end of November, Viterbi, (knowing his condemnation, and being confined in the prison of Bastia,) resolved to die. To effect his purpose, he abstained from food for three days, and then ate voraciously, and to a forced excess, in the hope that, after fasting so long, he should thereby put an end to his existence. Nature deceived him, and, on the 2d of December, he determined to starve himself to death. From that day nothing could subdue this terrible resolve: although Viterbi, who had already sustained two dangerous attacks of illness, did not expire until the night of the 21st of that month.

‘During the three first days, Viterbi, as was the case when he made the first attempt, felt himself progressively tormented by hunger, and did not endure these early sufferings with less courage than he had shown on the former occasion. Under these circumstances, a report was made to the public Minister, who ordered bread, water, wine and soup, to be taken daily to his cell and placed conspicuously in view. No debility was manifest during these three days, no irregular muscular movement was remarked, his ideas continued sound, and he wrote with his usual facility, but took no nourishment.

‘From the 5th to the 6th, to hunger insensibly succeeded the much more grievous suffering of thirst, which became so acute, that on the 6th without ever deviating from his resolution, he began to moisten his lips and mouth occasionally, and to gargle with a few drops of water, to relieve the burning pain in his throat ; but he let nothing pass the organs of deglutition, being desirous not to assuage the most insupportable cravings, but to mitigate a pain which might have shaken his resolution. On the 6th, his physical powers were a little weakened ; his voice was, nevertheless, still sonorous, pulsation regular, and a natural heat equally extended over his whole frame. From the 3d to the 6th, he had continued to write, at night several hours of tranquil sleep seemed to suspend the progress of his sufferings, no change was observable in his mental faculties, and he complained of no local pain.

‘Until the 10th the thirst had become more and more insupportable : Viterbi merely continued to gargle, without once swallowing a single drop of water ; but in the course of the 10th, overcome by excess of pain, he seized the jug of water, which was near him, and drank immoderately. During the last three days, debility had made sensible progress, his voice became feeble, pulsation had declined, and the extremities were cold. Viterbi, however, continued to write ; and sleep, each night, still afforded him several hours’ ease.

‘From the 10th to the 12th the symptoms made a slight progress. The constancy of Viterbi never yielded an instant : he dictated his journal, and afterwards approved and signed what had thus been written agreeably to his dictation. During the night of the 12th the symptoms assumed a more decided character, debility was extreme, pulsation scarcely sensible, his voice extraordinarily feeble, the cold had extended itself all over his body, and the pangs of thirst were more acute than ever. On the 13th the unhappy man, thinking himself at the point of death, again seized the jug of water, and drank twice, after which the cold became more severe ; and, congratulating himself that death

was nigh, Viterbi stretched himself on the bed, and said to the gendarmes who were guarding him, "Look how well I have laid myself out." At the expiration of a quarter of an hour, he asked for some brandy; the keeper not having any, he called for some wine, of which he took four spoonfuls. When he had swallowed these the cold suddenly ceased, heat returned, and Viterbi enjoyed a sleep of four hours.

'On awaking (on the morning of the 13th), and finding his powers restored, he fell into a rage with the keeper, protesting that they had deceived him, and then began beating his head violently against the wall of his prison, and would have inevitably killed himself, had he not been prevented by the gendarmes.

'During the two following days, he resisted his inclination to drink, but continued to gargle occasionally with water. During the two nights he suffered a little from exhaustion, but in the morning found himself rather relieved. It was then that he penned some stanzas.

'On the 16th, at five o'clock in the morning, his powers were almost annihilated, pulsation could hardly be felt, and his voice was almost wholly inaudible; his body was benumbed with cold, and it was thought that he was on the point of expiring,—At ten o'clock he began to feel better, pulsation was more sensible, his voice strengthened, and, finally, heat again extended over his frame, and in this state he continued during the whole of the 17th. From the latter day until the 20th, Viterbi only became more inexorable in his resolution to die.

'During the 19th, the pangs of hunger and thirst appeared more grievous than ever; so insufferable, indeed, were they, that, for the first time, Viterbi let a few tears escape him. But his invincible mind instantly spurned this human tribute. For a moment he seemed to have resumed his wonted energy, and said, in the presence of his guards and the gaoler, "I will persist, whatever may be the consequence; my mind shall be stronger than my body; my strength of mind does not vary, that of my body daily becomes weaker."

'A little after this energetic expression, which showed the powerful influence of his moral faculties over his physical necessities, an icy coldness again assailed his body, the shiverings were frequent and dreadful, and his loins, in particular, were seized with a stone-like coldness, which extended itself down his thighs.

'During the 19th, a slight pain at intervals affected his heart, and, for the first time he felt a ringing sensation in his ears. At noon, on this day, his head became heavy; his sight, however, was perfect, and he conversed almost as usual, making some signs with his hands.

‘On the 20th, Viterbi declared to the gaoler and physician, that he would not again moisten his mouth; and, feeling the approach of death, he stretched himself on the bed, and asked the gendarmes, as he had on a former day, whether he was well laid out, and added, “I am prepared to leave this world.” Death did not this time betray the hopes of a man who, perhaps, since the creation, invoked it with the greatest fervour, and to whom it seemed to deny its cheerless tranquillity.

‘On the 21st, Viterbi was no more. Until the day of his death this man regularly kept his journal. The delivery of it to his family was refused.’—(*From the Corsican Gazette.*)

On the Re-establishment of a Canal in the place of a portion of the Urethra which had been destroyed. By HENRY EARLE, Esq. Surgeon to the Foundling Hospital, and Assistant Surgeon to St. Bartholomew's Hospital. Quarto, pp. 13. From the Philosophical Transactions, 1821.

[From the London Medico-Chirurgical Review.]

Case. John Whittaker, a seaman, fell with one leg on each side of the gunwale of a boat, in May 1813, by which accident the urethra was so injured in the perineum, that he was forced to have the catheter introduced for six weeks. From that time he continued to experience more or less difficulty in discharging his urine; and in May, 1819, he was attacked with a sudden ischuria, which was soon followed by extensive effusion into the cellular substance. Mortification took place, and the integuments in the perineum, with about an inch of the canal of the urethra, sloughed away. A free vent being thus obtained, the mischief did not extend itself to the scrotum. Several unsuccessful attempts, by the gentleman in attendance, were made during the healing process, to unite the integuments over the catheter. In the month of August following, the patient came under the care of our author in St. Bartholomew's hospital, with a large smooth cicatrix occupying the urethra, no vestige of which remained at that part. The mucous membrane of the canal was distinctly visible terminating above, and recommencing below the cicatrix. Through the posterior aperture the whole of the urinal and seminal discharges were evacuated, the canal anterior to the breach being increased in density, contracted, and likely soon to be obliterated. Our author determined on pursuing the following plan. The integuments on the right side had suffered less than those on

the left, so that when a catheter was introduced, that portion which passed across the cicatrix could be about half covered by drawing the skin and cicatrix from the right towards the opposite side. Our author's first attempt was to encourage this disposition in the integuments to fold over; and, as some delay was required to dilate the anterior part of the urethra with bougies, he was directed to remain in bed with his knees tied together over a pillow, and a truss was so applied as constantly to press the integuments from the right to the left side.

'After some weeks, the urethra being sufficiently dilated to admit a moderate sized catheter, I determined to attempt the following operation. The smooth cicatrized surface having become insensible to the irritation of the urine, I resolved to employ it in the formation of a canal, and to endeavour to connect by it the two portions of the urethra: for, as many months had elapsed since the healing of the wound, all contraction in the cicatrix had ceased, and it was probable that a passage formed of such parts would not be liable to any farther diminution in its calibre.

'On the other hand, I had to contend with two great difficulties: in the first place, the portion of cicatrized integument intended to be separated, was not of original formation; consequently, it was endued with less vital energy, and possessed fewer blood vessels; secondly, it was not possible to allow the parts to be at rest for the completion of any curative process for many hours together: the force also with which the urine was expelled, and the acrid nature of that discharge, were alike unfavourable to the cure by adhesive inflammation. All these circumstances having been well considered, a portion of integument was removed about an inch and half long, and one-third of an inch in width, on the left side of the cicatrix; the groove thus formed being intended to receive the edge of skin to be detached from the opposite side. An incision was then made across the perineum above and below, so as to pare away the callous edges of the urethra. The cutis was next dissected off from a portion of integument on the right side of the perineum, about an inch and half in length and half an inch broad, leaving a smooth space of rather more than an inch between the cut surfaces, which was intended to form the lining of the new canal. The integuments on the right side were now dissected up, turned over a catheter, and brought in contact with the opposite groove. The detached portion of cicatrix bled little during the operation, and, before it could be applied to the groove, the edge had so livid an appearance as to create an apprehension that it must perish. Two ligatures were employed to assist in retaining it in the desired position, and some straps of adhesive plaster and a bandage com-

pleted the dressings. The day following the operation, it was evident that some urine had escaped by the side of the catheter; and on the third day, when it became necessary to remove the dressings, it was found that the portion of the flesh which had been denuded of skin had sloughed, but that a sufficient quantity had united above and below to form a canal open at one side, and large enough to include the whole catheter.³ 7.

This was as favourable a result as could be expected under existing circumstances. The two surfaces from whence the integuments had been removed, were now suffered to heal, but as the cicatrix on the right contracted, it drew the newly formed canal rather to that side, and tended to increase the opening into it. Soon after this the patient became much disordered in his health, and had an attack of *lepra vulgaris*, on which account nothing was attempted for some months, except several times freely excoriating the edges of the canal, and thus endeavouring to unite them by keeping them in contact. In this Mr. Earle was constantly foiled by the astonishing rapidity with which the skinning process took place from within outwards—apparently arising from the moist state in which the parts were constantly kept.*

In the summer of 1820 another operation was deemed advisable.

‘A deep groove was made on the right side, the surface was denuded of its cutis to some extent, a considerable portion of integument was then detached from the left side, and, in order to obtain healthy skin, I encroached a little on the thigh, and laid bare the edge of the fascia lata. Instead of passing any ligature through the detached portion, the old quill suture was employed, which was passed from the two outer cut surfaces. A pad of adhesive plaster was interposed between the ligatures and the flap of skin, to diffuse the pressure more generally; and my patient, being now quite an adept in passing the catheter, was directed to introduce it about three times in the twenty-four hours, instead of retaining it in the bladder, which had permitted some of the

* ‘In corroboration of this,’ says Mr. Earle, ‘I have lately employed bread and water poultices to healthy sores, which have skinned over with greater rapidity than under any other application. Since making these experiments, I have learnt that Professor KERN, of Vienna, employs no other local remedy in the cure of ulcers, than water and a simple covering of linen. It is a curious fact, that in the sixteenth century, when the art of surgery was incumbered with useless nostrums and complicated instruments, and when the actual cautery and hot oils were the favourite remedies, that a similar simplicity of treatment should have been employed by MAISTRE DOUBLET, a contemporary of AMBROSE PARE, of whom BRANTOME tells us,

“Et toutes ses cures faisoit le dit DOUBLET par un simple linge blanc et belle eau simple de la fontaine ou des puits.”

urine to pass insensibly away, and had acted prejudicially in the former operation. By this attempt much more was gained, and about two-thirds of the canal were completed; still, however, there remained a small aperture at the upper part. We again attempted to close this by denuding the edges with escharotics and the lancet, but it skinned over too rapidly to allow of any union between the opposite surfaces. A third operation on a smaller scale was therefore necessary, which so near completed the cure as to leave only an orifice large enough to admit a bristle, which has subsequently closed, and, at the present time, (March 1821,) he remains perfectly well, and is able to expel the contents of his bladder *pleno rivo*.' 9.

Extracts from a Letter to Dr. A. Duncan, from a Physician in London. 1. Oil of Croton Tiglium,—the Oil of the Malabar, Ceylon, and Mollucca Ricinus.

[From the Edinburgh Medical and Surgical Journal.]

SINCE the introduction of this article by Mr. Short, the oil of Croton Tiglium has been extensively employed. The due doses and modes of administration not being rightly known, the effects were so violent as to occasion many practitioners to reject it. This has been its fate generally in Malabar, the *natale solum* of the tree *Croton T.* It has been by Rumphius, and in the Hortus Malabaricus, designated with plates nearly 150 years ago. Whether the *Kerani* of the Greek writers, and the Croton of Pliny and other Latin writers, be the same as the Croton Tiglium designated by Icons in later times, or some other species of the genus Croton and Ricinus, we have no means of determining for want of plates and descriptions. This oil, however, seems to have been in little request by the Greeks and Romans, and has been rather more employed for affording light in lamps, and for external use, than as a medicine. But this was the case with the oil of the West India ricinus communis, till Canvane's book, 45 years ago. The oil of croton tiglium, however, is as manageable and mild in its operation, when duly dosed and skilfully commingled, with appropriate assistance, as castor oil. This I assert from experience.

This medicine may be obtained genuine at No. 11, Ratcliffe Highway, from Mr. Short, apothecary, who has published a circular containing the following testimonies of its qualities, and mode of administration.

‘The croton oil is produced from the nuts of the croton tiglium, formerly known by the name of grana molucca, and is reckoned by the native doctors (*Vytians*) amongst the drastic purges. One drop is the usual dose for a grown person, which, according to circumstances, is increased to two or three. It may be formed into pills with any proper substance, or rubbed with sugar, adding ten drachms of peppermint-water to make a draught. I have given as many as three drops in obstinate bilious fevers, which not only produced an amazing quantity of feculent matter, but copious perspiration. It operates usually in half an hour, without griping. I have used the croton-nut oil the last eighteen months, and can conscientiously recommend it as the speediest, most effectual, and safe purge I ever employed. “W. E. E. CONWELL.’

‘An excess in the dose acts by vomiting, especially in foul stomachs; it is a powerful evacuant of the bile; and by the Malays is administered successfully as an hydragogue. Some use two grains of the extract of catechu in the dose, to correct its acrimony. “DR. WHITE.’

‘Two pills, containing one drop, given to men of ordinary habits and undebilitated frame, produce a full purgation, such as is necessary, according to the usual practice, in the commencement of fevers. I estimate the dose as equal in power to a drachm of jalap, or six grains of calomel, and an ounce of Epsom salts. In a very short time after taking the pill or draught, perhaps in half an hour, the patient is sensible of a rumbling motion in the bowels, which, generally in less than another half hour, is followed by a stool. The rumbling continues during the whole of the operation. The stools are invariably watery and copious. In about one case in ten the medicine produces griping, and in one in thirty, nausea; but it is probable that similar effects would have arisen in these cases from any purgative medicine of equal power. In a case of general torpor and coma, I succeeded in producing numerous, though not very watery, stools; but in a case where the torpor of the bowels had been for some time a marked feature of the fever, Mr. Surgeon Palmer gave three pills without effecting very copious motions.

‘The great advantage of this purge appears to me to be the smallness of the bulk necessary to obtain the desired effect. In the two cases above mentioned, it would have been impossible for the patient to have swallowed a sufficient quantity of any other purgative. None of the drastic purges are so certain, none so rapid in their action, and none so little annoying by griping or nausea. I found the dose of one drop very

successful in cases of diseased spleen, where the patients were obliged to have their bowels daily emptied,—an omission of this precaution being almost inevitably followed by a paroxysm of fever. By managing the exhibition of the medicine, so as to ensure its operation an hour or two before the time of the expected attack, it was almost certainly obviated.

(Signed)

‘THOMAS MARSHALL,
‘Assistant Surgeon, Baricheur, near Surat.’

Cases of Tic Douloureux successfully treated. By BENJAMIN HUTCHINSON, Member of the Royal College of Surgeons of London, &c. &c. London, 1820. 8vo. pp. 71.

[From the Edinburgh Medical and Surgical Journal.]

IN our account of the work of Mr. Swan, we had occasion to make some animadversions on the treatment of *tic douloureux*, and the comparative advantages of dividing the nerve, or treating the complaint by remedies which should operate on the constitution. There are, indeed, very few diseases, in the management of which it is of more importance to determine whether it is of a local nature, or depends on causes of a more general description. It avails not to argue, that the operation is, in most situations, so trifling and so easy, that it can scarcely require much reflection or delay. Whatever it may be to the surgeon, it is a matter of some consequence to the patient to be relieved, without having resource to a remedy which is always painful, and has been found in many instances to be ineffectual.

When the disease began to attract the attention of medical men, it was considered a local affection entirely, both in its pathological nature, and in its origin; and the local treatment was, therefore, the most rational, and appeared in general to answer the expectations with which it was employed. The frequency, however, with which the operation has failed to produce even a temporary cure, has led many practical men to doubt its propriety in any circumstances, and must certainly shake the faith of many who deemed it the most rational and certain benefit which the science of anatomy ever conferred on the practice of surgery.

Our readers are perhaps aware, that this change in treatment has not been effected suddenly, or at one step; for, in addition to many remedies which act on the alimentary canal, or the circulation, there were employed of late years not a few, the am-

biguous operation of which has been conveniently expressed by saying that they exerted an alterative influence. Of this kind, perhaps, are the mercurial and arsenical remedies for tic douloureux. We know not to what class to refer the remedy proposed by Mr. Hutchinson, and stated by him, on very strong testimony, to afford a most certain, efficacious, and permanent cure. The remedy which our author, from experience of considerable extent, proposes, is the carbonate of iron, prepared from the sulphate by precipitation, by means of carbonate of soda. While he admits that this is not a new or unknown medicine, he contends that its exhibition in this disease is peculiar to himself; and especially, that it has never been given in doses sufficiently large to produce a great and material effect on the constitution. The doses employed by our author are half a drachm, or four scruples, two or three times daily. In some of his cases, he commenced with half a drachm three times daily, and increased it to the quantity of four scruples twice a day; a dose which, our author gives us to understand, may be continued for several weeks, in the course of which it rarely happens that the disease is not completely extirpated. He further remarks, that this mode of exhibiting the precipitated carbonate ought not to be restricted to *tic douloureux*, but should be employed in every form of disease in which iron is to be deemed beneficial.

We cannot say that we have much faith in specific medicines in any disease, nor perhaps would we place much reliance on any one mode of treatment, to the exclusion of all others; and, while we are willing to believe that Mr. Hutchinson's carbonate of iron is a most powerful and efficacious medicine in several of the forms of *tic douloureux*, yet we must not be understood to consider it in the light of a never-failing anti neuralgic agent. To us, indeed, it appears now almost certain, either that there are varieties of the disease which demand different modes of curative management; or that, at different periods and stages of its progress, the pathological state of the nerve which gives rise to the neuralgic symptoms, is so different, that it does not at all times admit the administration of the same remedies with effect. While, therefore, we sincerely recommend the labours of Mr. Hutchinson to the serious attention of our brethren, we must not conclude this brief notice without observing, that it is requisite to attend to the collateral circumstances in the health and constitution of the patient at the moment; that no mode of treatment can be planned, and no medicine exhibited, without considering the age, constitution, and habits of the individual,—without disco-

vering, at least in some degree, whether the malady depends on general or local causes, and on which kind of each it depends;—that, in some instances, neither antiphlogistic measures alone, nor evacuating, nor tonic, nor alterative remedies, will effect a cure;—that calomel, arsenical solution, carbonate of iron, or even the operation, may be tried without decided benefit,—until some unseen change gradually take place in the part affected, or in the system at large, and then either enable the remedy, to effect the rest, or probably place the parts concerned in a situation favourable to the recovery of their original action.

*Extract of a Letter from an Officer at Banda, July 1821, to
Dr. Duncan, junior.*

THE last hot season has been the most severe I ever experienced. Within doors, behind Tattees, we were pretty comfortable; but outside, the wind felt like flames of fire. Numbers of people were killed by it every day; and, badly as the cholera raged at the same time, more people, I believe, were killed by the Loo, as the natives term the hot destructive wind. Its effects were instantaneous. Without any previous sickness, and without the slightest warning, the person struck by it at once drops dead. Six men sitting together in a cloth merchant's shop here, all at the same moment fell dead. If water can be immediately procured to throw over them, they sometimes, it is said, recover. In no case, however, out of the many which happened here, was there a single instance of recovery.

The cholera is nearly as quick in its work of destruction; but it is attended with horrid agonies. Lieutenant B. of my battalion, left the parade on the morning of 25th June, about 6 o'clock, in the most perfect health, and decidedly the stoutest officer in the corps. He was shortly afterwards seized with cholera, and was dead before 2 p. m. Every remedy that was ever heard of, was tried in vain. Not the slightest check was given to the disease. Bleeding alone appeared to afford temporary relief; and he was bled at different times to such an extent, that the surgeon was afraid to repeat it. This disease, I mean in the shape it assumes in this country, is, I believe, unknown in Europe. It almost instantly changes the countenance, and terminates fatally in a few hours. Poor B. was a very stout young man, 30 years of age, with a round plump face. In an hour his eyes were sunk in his head, and his cheeks had entirely fallen away; his face was altogether so completely changed, that he could hardly be known to be the same person.—*Ibid.*

THE way to preserve good Health, invigorate a delicate Constitution, and attain an advanced Age : together with a Treatise on Domestic Medicine ; pointing out, in plain language, the Nature and Cure of all Diseases, that occur in all Climates ; with suitable Prescriptions in English, &c. &c. &c.!!! By Robert Thomas, M.D. Salisbury, 1822.

Dr. Thomas is as well known to the indolent part of the Profession, as Mother Bunch's *fairy tales* to the lisping inmates of the nursery. Not unlike that more innocent production, the present is intended to operate, although in a much more serious manner, upon the imagination of those 'children of larger growth,' who may honour the author by the perusal of his work. The fact is, that Dr. Thomas commenced his literary career by publishing a 'reading made easy' book, to the junior members of the Profession, who were anxious of having both the time and trouble of becoming initiated as much abridged as possible. His views extended with his success, and his earlier work gradually lapsed into a manual for country curates, and for every body who had curiosity enough to desire its perusal, or were unfortunately seized with mental derangement of that nature which eagerly longed after that forbidden fruit,—the knowledge of the nature of their own ailments, whether real or imagined. Still Dr. Thomas could not rest contented with his extended sphere of *usefulness* ; and, to complete what the former was not calculated altogether to effect, he produces a work that promises to enlighten mankind, upon a subject the most interesting to all—the benefit of self. We understand that an honourable member has it in contemplation, to move the house for leave to bring in a bill, that *thirty thousand pounds* be voted to Dr. Thomas, as a reward for the services he has rendered the community.—*Lon. Med. Repository, for May, 1822.*

The Oil of Turpentine rendered more palatable.—Dr. Nimmo employs the following method to purify the oil of turpentine, for medicinal use, 'without diminishing its efficacy, but greatly lessening its disagreeable taste, and its injurious effects upon the kidneys.' To eight parts of the oil add one part of the strongest alcohol, and let them be well agitated ; in a few minutes a separation takes place ; the oil, unless very impure, falls to the bottom, and the alcohol, having dissolved the impurities, floats at the top. Pour off the alcoholic portion, add an equal quantity of alcohol as before, agitate and separate the liquids. If this be repeated three or four times, the oil become nearly tasteless, almost without smell, and when a portion of it is evaporated, it leaves no residue. It is necessary to remark, that, pure as the

oil may be rendered, it speedily undergoes alteration, and returns to its original state of greater or less impurity.—*Ibid.*

Use of the Piper Cubeba in Leucorrhœa.

Dr. JAMES ORR, of Edinburgh, has communicated to Dr. Duncan, jun. four cases of leucorrhœa cured by cubebs. In the first case, the patient had laboured under the disease for seven months. In the second, the complaint had lasted nearly eight years; in the third, it was of two years' standing; and in the fourth, the discharge had resisted the use of several remedies for six months. In the first three cases, the disease succeeded to abortion. The pepper was administered either in water or milk, or made into an electuary with treacle. The dose was from one drachm and a half and upwards, three times a-day, but never exceeded three drachms.

INTELLIGENCE.

Varicella or Chicken Pox. Communicated by J. B. Brown, M.D.

For the last few weeks I have seen an unusual number of children affected with this disease. I have now seen some peculiarities attending it, such as I have never witnessed before. In one case, that of a nursing child, of a fair skin, and perfectly healthy previous to the attack of this disease, the vesicles became confluent about the 4th or 5th day. A greater part of the head was covered by one entire scab, resembling Tinea or scald head; and different parts of the body were incrustated in the same manner. In two or three other cases the pustules became phlegmonous and the children were literally covered with small boils, which suppurated. These last cases are remarkable, in as much as the pustular inflammation in chicken pox is generally confined to the skin, whereas in these children it extended to the cellular membrane. I ought to mention that these children were all of them previously healthy, but that the disease was so well marked at first that there could be no doubt as to its character.

Hayward's Translation of the Anatomie Generale.

We are happy in being able to announce the publication of the first volume of Dr. Hayward's Translation of the General Anatomy of Bichat, by Messrs. Richardson & Lord of this city. The translation of the remaining volumes, we understand, is completed and will soon be published.

This, the latest completed work of its author, has very high claims upon the attention of the medical public. It was the result of the labour of his more mature years, and although hastily and often carelessly written, had been previously the subject of much thought, and been thoroughly digested and arranged in his own mind. The materials indeed of which it is composed and the opinions and principles which it presents, had been brought forward and developed many times in his lectures before being made the subject of this work. The writings of Bichat which have been already published in this country, have we believe, been sufficiently circulated to create some interest in the profession with regard to that which is now offered to them, and we do not hesitate to say that it will be found even more valuable and instructive than those. It contains in fact under a different form and arrangement, nearly all that is new and important in his *Physiological Researches upon Life*, and his *Treatise on the Membranes*, besides an immense amount of information upon the organic structure and properties of the different parts of our systems which was either originated by himself, or at least is no where else to be found in a corrected and methodized form.

It is our intention in a future number to enter into some detailed account of the object and plan of this work, with the view of producing in the mind of the profession a proper impression of its value and importance. In the mean time we would earnestly recommend its perusal and its possession to every physician. It will most richly repay a careful study, and form a valuable addition to every medical library.

AMERICAN ORCHARDIST.

Dr. James Thacher, well known as the author of the *American Dispensatory*, has published a work in one vol. 8vo. entitled

'The American Orchardist, or a Practical treatise on the culture and management of Apple and other fruit trees, with observations on the diseases to which they are liable, and their remedies. To which is added the most approved method of manufacturing and preserving Cyder. Compiled from the latest and most approved authorities, and adapted to the use of American Farmers. By JAMES THACHER, M.D. Fellow of the American Academy of Arts and Sciences, and of the Massachusetts Medical Society,' &c. &c.

This work will be found interesting and profitable to the farmer and scientific agriculturist. The following recommendation is from the president and officers of the Massachusetts Agricultural Society.

THE gentlemen who sign the following Recommendation, are officers of the Massachusetts Agricultural Society, although they do not subscribe as such; but cheerfully consent, as individuals, to honour the publication with the following testimony of their approbation.

BOSTON, SEPTEMBER 10, 1821.

WE have perused, at the request of Dr. Thacher, his Treatise on the Culture of Fruit Trees, and the Art of Making Cider; and, although we cannot hope that our opinions will have any great weight with the public, yet, as the author is desirous that we should express them, we have no hesitation in saying, that it appears to us an excellent compendium of all that has been written on the subject—comprising, within a moderate compass, the result of the observations of the experienced cultivators of Europe, and of this country—with many original suggestions of his own—and we believe that such a work will be of great value to those, who wish to obtain a knowledge of this branch of agriculture, but who cannot have access to the original sources, from which, with great labour, and, as we believe, good judgment, this compilation has been formed.

AARON DEXTER, Esq., M.D., President.
 SAMUEL W. POMEROY, Esq., First Vice-President.
 THOMAS L. WINTHROP, Esq., Second Vice-President.
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 JOHN WELLES, Esq.,
 PETER C. BROOKS, Esq.

} Trustees.

Massachusetts Medical Society.

At the annual meeting of the Society, holden on the 5th day of June, A.D. 1822, the following gentlemen were elected Counsellors of the Society for the several Districts, viz. For the district of

SUFFOLK.

Drs. David Townsend, Thomas Welsh, Aaron Dexter, Wm. Spooner, Asa Bullard, John G. Coffin, John Dixwell, James Jackson, John C. Warren, John Gorham, John Randall, Thos. I. Parker, Geo. C. Shattuck, Horace Bean, J. B. Brown, Walter Channing.

ESSEX.

Drs. Edward A. Holyoke, Joshua Fisher, Benj. L. Oliver, John D. Treadwell, Oliver Prescott, James Gardner, Nehemiah Cleveland, Nathaniel Bradstreet, Richard Hazeltine.

MIDDLESEX.

Drs. Isaac Hurd, Amos Bancroft, Calvin Thomas, Abiel Haywood, Rufus Wyman, James P. Chaplin, Samuel Manning, John Walton.

WORCESTER.

Drs. Abraham Haskell, Oliver Fiske, Austin Flint, John Green, Daniel Thurber, Jacob Holmes.

HAMPSHIRE.

Drs. Elihu Dwight, Enos Smith, William Hooker, Joseph H. Flint, Seth Lathrop, Alpheus F. Stone, Stephen. W. Williams,

BERKSHIRE.

Drs. Hugo Burghardt, Asa Burbank, Daniel Collins, Benjamin Rogers, Henry H. Childs, Wm. H. Tyler.

NORFOLK.

Drs. Amos Holbrook, Nathaniel Miller, John Bartlett, Robert Thaxter, Samuel Bugbee.

PLYMOUTH.

Drs. Hector Orr, Cushing Otis, Nathan Hayward.

BRISTOL.

Drs. Benjamin Billings, George Leonard, Alexander Reed.

At this meeting a publication was issued, which completes the 3d volume of 'Medical papers communicated to the Massachusetts Medical Society.' The Fellows of the Society who have not taken this number, may obtain it, on application to Dr. Channing, the Librarian.

A report was made to the Society, at the last annual meeting, by a Committee appointed for the purpose, pointing out the relation which the Fellows residing in the State of Maine, do now bear to this Society, and recommending other measures in regard to them. This report was discussed at that meeting, and the first resolve adopted, the remainder was referred to this meeting. The subject was again taken up and discussed at this meeting, and the further consideration of it indefinitely postponed. The Fellows of the Society in the State of Maine are now considered as Fellows out of the State and are not liable to assessments, or competent to the duties, or to the enjoyment of the privileges of membership, while they remain out of the State.

The Committee appointed to devise means for effecting a competent and regular education of Apothecaries, reported a system for that purpose which was approved of, and the Committee directed to apply to the Legislature for an act to enable the Society to carry the system into effect.

A memorial from the Berkshire District Society in relation to the establishment of a Medical School at Pittsfield was read; but the Society declined acting on the subject.

Several very important amendments were made to the Bye-Laws at this meeting, and the Committee of Publications were directed to publish a new edition of them, with such additions and amendments as have been made since the last edition was printed.

After the usual business of the Society was transacted, His Excellency the Governor, His Honor the Lieutenant Governor, Ward Nicholas Boylston, Esq. and other invited guests, were introduced; and a very interesting and useful discourse was read by Doct. Coffin, of this City, on the subject of 'Medical Education and the Medical Profession.'

These annual meetings are peculiarly interesting to the profession, and beneficial to the public, as they bring together, from all parts of the Commonwealth, the most intelligent and enlightened Physicians, who freely communicate the experience they

have acquired, and unite their efforts in the extension of medical science, and in raising the standard of medical education.

On the day succeeding the annual meeting of the Society, the Counsellors met agreeably to statute, when the following gentlemen were elected officers for the year ensuing, viz.

JOSHUA FISHER, M.D. *President.*

THOMAS WELSH, M.D. *Vice-President.*

JOHN DIXWELL, M.D. *Corresponding Secretary.*

JAMES P. CHAPLIN, M.D. *Recording Secretary.*

JOHN GORHAM, M.D. *Treasurer.*

WALTER CHANNING, M.D. *Librarian.*

James Jackson, M.D.	{	Censors for the Society at large, and for the First Medical District.
John Dixwell, M.D.		
John G. Coffin, M.D.		
James P. Chaplin, M.D.		
Rufus Wyman, M.D.	{	Censors for the Second Medical District.
Drs. Oliver Fiske,		
Austin Flint,		
John Green,		
Abraham Haskell, jr.	{	Censors for the Third Medical District.
John Homans,		
Drs. Elibu Dwight,		
William Hooker,		
Joseph H. Flint,	{	Censors for the Fourth Medical District.
Stephen W. Williams,		
David Hunt,		
Drs. Asa Burbank,		
Benjamin Rogers,	{	Censors for the Fourth Medical District.
Henry H. Childs,		
John Delamattre,		
Charles Worthington,		

Dr. Henry H. Childs of Pittsfield, was chosen to deliver the next annual discourse.

All those Physicians who had been thought worthy of nomination by the Counsellors in the several districts, and had not been previously elected, were elected Fellows at this meeting.

Agreeably to a resolution of the Counsellors, no one can be admitted into the Society after this meeting, unless he shall have been licensed by the Censors of this Society, or shall have received a degree of Doctor of Medicine at Harvard University, or shall have been in the practice of physic fifteen years, and, in the latter case, not without very special reasons in his favour.

Some of the District Societies communicated reports of their proceedings during the year past.

The Committees chosen to confer with the Apothecaries throughout the State, for the purpose of ascertaining if they

would co-operate with the Society in carrying into effect the new Pharmacopœia of the United States, and if so, when they would be ready to deliver medicines prepared agreeably thereto, reported, that the Apothecaries were ready to comply with the wishes of the Society in this respect, and had prepared their medicines accordingly.

The Committee of publications were directed to publish Dr. Coffin's discourse immediately, and it will be issued from the press in a few days.

The Counsellors directed that the following revised list of books should be published.

In accordance with a Law of the Commonwealth enacted February 10th, 1789, and in obedience to a By-Law of the Society, the Counsellors of the said Society give notice, that candidates for examination before the Censors, must hereafter give evidence of having read and studied the books whose titles are contained in the list which follows, viz.

The Edinburgh System of Anatomy.

Bell's System of Anatomy, or Wistar's Anatomy.

Haller's First Lines of Physiology.

Richerand's Elements of Physiology.

Bichat on Life and Death.

Lavoisier's Elements of Chemistry.

Bichat's General Anatomy, Translated by Dr. Hayward.

Gorham's Chemistry.

Murray's Materia Medica.

Thacher's Dispensatory.

Pharmacopœia of the United States.

Cooper's Surgery and Dorsey's Surgery.

Boyer's System of Surgery.

Boyer on the Bones.

Hunter's Treatise on the Blood, Inflammation, and Gun-shot wounds.

Burns' Anatomy of the Gravid Uterus.

Denman's System of Midwifery.

Denman's Aphorisms.

Cullen's Nosology.

Cullen's First Lines of the Practice of Physic.

Thomas's Practice of Physic.

Sydenham's Works.

Rush's Works.

Underwood on the Diseases of Children.

G. Fordyce's Dissertations on Fever.

Heberden's Commentaries on Diseases.

Hunter's Treatise on Lues Venerea.

Although the books mentioned in the foregoing list are all that candidates are required to have read, yet the Counsellors believe that many more may be carefully read during the period of pupillage, and they have therefore prepared another list of books, which they recommend for the perusal of students in medicine.

Books Recommended.

ANATOMY.

Winslow's Anatomy.
 Soemmerring's do.
 Cheselden's do.
 Boyer's do.
 Albinus' Anatomical Plates.
Charles Bell's System of Dissections.
 London Dissector.
Shaw's Manual for the Student of Anatomy.
Wilson's Lectures on the Skeleton.
Wilson's Lectures on the Vascular System.

PHYSIOLOGY.

Halleri Elementa Physiologiæ.
 Boerhaave's Institutes.
 Nouveaux Elemens de la Science de l'Homme, par Barthez.
 Bichat on the Membranes.
Blumenbach's Physiology.
 Blumenbach's Comparative Anatomy.
 Cuvier's Comparative Anatomy.
 Fordyce on Digestion.
 Hunter on the Animal Economy.
 Hewson on the Blood and Lymphatics.
Sheldon on the Absorbent System.
 Bostock on Respiration.
Ellis on the Effects of Germination, Vegetation and Respiration on the Air ; in two parts.
 Parry on the Pulse of the Arteries.
 Magendie's Physiology, translated by Revere.

CHEMISTRY.

Davy's Elements of Chemical Philosophy.
 Thompson's System of Chemistry.
 Black's Chemistry.
Murray's System of Chemistry.
 Ure's Chemical Dictionary.

MATERIA MEDICA AND PHARMACY.

Murray's Apparatus Medicaminum.
 Thesaurus Medicaminum.
 Cullen's *Materia Medica.*

Lewis's *Materia Medica*.
 Pearson's *do.*
 Bigelow's *Medical Botany*.
 Paris's *Pharmacologia*.

SURGERY.

Pearson's *Principles of Surgery*.
 Bell's (J.) *do.* *do.*
 Thomson on *Inflammation*.
 Pott's *Works*.
 Abernethy's *Surgical Works*.
 Dorsey's *Surgery*.
 Cooper's *Surgical Dictionary*, by Dorsey.
 Hey's *Practical Observations on Surgery*.
 Bell's (Ch.) *Operative Surgery*.
 Desault's *Surgery*.
 Richter's *Medical Cases in Surgery*.
 Larrey's *Military Surgery*.
 Jones on *Hæmorrhage*.
 Home on the *Formation of Pus*.
 Bell (B.) on *Ulcers*.
 ——— on *Lues Venerea*.
 Ware on the *Diseases of the Eye*.
 Scarpa on the *Eye*.
 Wardrop on the *Morbid Anatomy of the Eye*.
 Saunders on the *Eye*.
 ——— on the *Ear*.
 Hunter on the *Teeth*.
 Fox on the *Teeth*.
 Cooper (A.) on *Hernia*.
 Lawrence on *do.*
 Travers on *Wounds of the Intestines*.
 Crowther on *White Swellings*.
 Ford on the *Hip-joint*.
 Home on the *Strictures of the Urethra*.
 Bell (C.) on *Diseases of the Urethra*.
 Howship on *Diseases of the Urinary Organs*.
 Copeland on *Stricture of the Rectum*.
 Adams on the *Eye*.
 Travers on the *Eye*.
 Cooper's *Lectures on Surgery*.
 Cooper and Travers' *Surgical Essays*.

MIDWIFERY.

Smellie's *Midwifery*.
 Merriman on *Difficult Parturition*.
 Rigby on *Uterine Hæmorrhage*.
 Vol. XI.

White on Lying-in Women.
 Gordon on Puerperal Fever.
 Hey on do. do.
 Armstrong on do. do.
 Douglass on the Evolution of the Fœtus.
 Burns' Principles of Midwifery.
 Ramsbotham's Observations on Midwifery.
 Conquest's Outlines of Midwifery.
 Clarke on the Diseases of Females.

PATHOLOGY AND THERAPEUTICS.

Celsi Opera.
 Van Swieten's Commentaries on Boerhaave.
 Conspectus Medicinæ Theoreticæ, auctore Jacobo Gregory.
 Burserius's Institutes of Medicine.
 Nosologia Methodica, auctore F. B. de Sauvages.
 Brown's Elements of Medicine.
 Darwin's Zoonomia.
 Parry's Elements of Therapeutics, &c.
 Morgagni on the Seats and Causes of Diseases.
 Baillie's Morbid Anatomy—with the plates.
 Whytt's Works.
 Fothergill's Works.
 Cheyne's Essays on Diseases of Children.
 Percival's Medical Works.
 Currie on the Diseases of America.
 Kirkland's Medical Surgery.
 Zimmerman on Experience in Physic.
 Huxham on Fevers and Sore Throat.
 R. Jackson on Fevers of Jamaica.
 R. Jackson's Outlines of the History and Cure of Fevers.
 R. Jackson on Cold Water.
 Currie on Cold Water.
 Philips (alias Wilson) on Febrile Diseases.
 Senac on Intermittent Fever.
 Alibert on Intermittent Fever.
 Clark on Fevers and Scarlatina.
 Chisholm on Pestilential Fevers.
 Bancroft on Yellow Fever, &c.
 Fellowes on the Fever of Andalusia, &c.
 Armstrong's Illustrations of Typhus, &c.
 Beddoes on the Combination of Fever and Inflammation.
 Strong on Petechial Fever.
 North on Petechial Fever.
 Gallup on the Epidemics of Vermont.

Clark on Hot Climates.
Lind on Hot Climates.
Johnson on Diseases of Hot Climates.
Chalmers on Diseases of South Carolina.
Cleghorn on Diseases of Minorca.
Hillary on Diseases of Barbadoes.
Hunter on Diseases of the Army in Jamaica.
Mosely on Tropical Diseases.
Pringle on Diseases of the Army.
R. Jackson on the Medical Department of Armies.
Lind on Diseases of Seamen.
Lind on the Scurvy.
Blane on Diseases of Seamen.
Trotter's *Medicina Nautica.*
Blackall on Dropsies.
Portal sur l'Apoplexie.
Cheyne on Apoplexy, Lethargy, &c.
Arnold on Insanity.
Crichton on Mental Derangement.
Pinel on Insanity.
Haslam on Madness.
Cox on Insanity.
Rush on Mental Diseases.
Bree on Disordered Respiration.
Corvisart on Diseases of the Heart.
Burns on Diseases of the Heart.
Parry on Syncope Anginosa.
Davis on Carditis.
Maclean on Hydrothorax.
Young on Consumption.
Stark's (Wm.) Works.
Hamilton on Digitalis.
Withering on Foxglove.
Crumpe on Opium.
Badham on Bronchitis.
Watts on Chincough.
Withering on Scarlatina.
Ring on Gout.
Sutton on Delirium Tremens, Peritonitis and Gout.
Pemberton on Diseases of the Abdominal Viscera.
Saunders on the Liver.
Harty on Dysentery.
Hamilton on Purgative Medicines.
Brera on Worms ; by Coffin.
Adams on Morbid Poisons.

Bateman on Cutaneous Diseases, with the plates.

Willan on Cowpox.

Home's Medical Facts.

——— Clinical Experiments.

Ferriar's Medical Histories and Reflections.

Fowler on Rheumatism.

——— on Arsenic.

——— on Tobacco.

Robertson on Cantharides.

Bardsley's Medical Reports.

Haygarth on Rheumatism.

Rollo on Diabetes.

Chapman's Therapeutics.

Haden on Colchicum Autumnale.

Marcet on Calculous Disorders.

Wilson's Lectures on the Urinary and Genital Systems.

——— *on Distortions of the Spine.*

Good's Physiological System of Nosology.

Burton on Tuberculous Diseases.

Laennec on Diseases of the Chest, Translated by Forbes.

R. Jackson on Contagious Fever.

Hall on Mimoses.

Armstrong on Scarlet Fever, Measles and Pulmonary Consumption.

Scudamore on Gout, Rheumatism and Gravel.

Philip on Indigestion.

Swan on the Treatment of Nervous Diseases.

Orfila on Poisons.

MISCELLANEOUS AND PERIODICAL WORKS.

Friend's History of Medicine.

Hunter's Introductory Lectures.

Cabanis on the Revolutions in Medical Science.

Hutchinson's Biographia Medica.

Young's Medical Literature.

Gregory on the Duties and Qualifications of a Physician.

Rush's Introductory Lectures.

Percival's Medical Ethics.

Farr's Medical Jurisprudence.

Edinburgh Medical Essays.

Medical Observations and Inquiries.

Medical Transactions of the College of Physicians of London.

Transactions of the College of Physicians of Philadelphia.

Memoirs of the Medical Society of London.

——— of the Massachusetts Medical Society.

Duncan's Medical Commentaries.

Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge.

Medico Chirurgical Transactions.

London Medical and Physical Journal.

Edinburgh Medical and Surgical do.

New York Medical Repository.

New York Medical and Philosophical Journal.

New England Journal of Medicine and Surgery.

J. G. Smith's Forensic Medicine.

Transactions of the King's and Queen's College of Physicians of Ireland.

Dublin Hospital Reports.

Medico Chirurgical Review.*

The qualifications of candidates for examination are stated in Chapter IV. Section II. of the bye-laws of the Society. That section is here copied in order to give to it greater publicity.

‘Every person, educated within this Commonwealth, shall have the following qualifications to entitle him to an examination by the Censors of the Society, or by those of any district Society.

‘1st. He shall be of sound mind, and shall have such an acquaintance with the Latin language, as is necessary for a medical or surgical education, and with the principles of geometry and experimental philosophy.

‘2d. He shall have studied three full years under the direction, and attended the practice, of some one or more of the Fellows or Honorary Members of the Society ; during which time, he shall have studied the most approved authors in anatomy, chemistry, materia-medica, surgery, midwifery, and the theory and practice of medicine ; or, at least, all those which the Counsellors shall from time to time specify, as constituting a proper course of medical or surgical education.

‘Any person educated without this Commonwealth, may be admitted to an examination, either by the Censors of the Society, or by those of any district, if he possess the qualifications specified in the first of the articles above mentioned ; and instead of those required in the second, shall have studied three full years under the direction, and attended the practice of some

* The titles of those books which are considered most important for every medical student to read, are printed in *italics* ; but there are some books of great value which are not so distinguished, from a consideration of their size, or of the difficulty in procuring them ; or because they are principally necessary for persons in particular situations only.

reputable physician or physicians, surgeon or surgeons, as the case may be.

‘The Censors of the Society, and those of the several districts, before examining any candidate, shall demand and receive from him a satisfactory certificate of his being qualified in one or the other of the modes before mentioned, and such certificate shall be delivered by the Censors to the Secretary of the Board, whose duty it shall be to put it on file, and make a record thereof.’

Published by Order,

JAMES P. CHAPLIN, *Recording Secretary.*

June, 1822.

A LIST of Corrigenda to the American Pharmacopæia has been published since the appearance of that work. The necessity of accuracy in such works has led us to republish it in this place, and to recommend to apothecaries and physicians to correct their books by it in those parts which are of practical importance.—ED.

AMERICAN PHARMACOPŒIA.

CORRIGENDA.

THE following corrections have, on examination, been found necessary by the Publishing Committee of the Pharmacopæia of the United States, to fulfil the design of the General Convention in that work.

January, 1822.

Page 32, line 9. *For* CASSA, *read* CASSIA.

— 34. *Insert* CUNILA. Cunila pulegioides.
Pennyroyal. W. I. 122.

— 55, 56. *Strike out the article* ORIGANUM *and* SAMBUCUS, *repeated here by mistake.*

— 64. *Under* ACIDUM SULPHURICUM DILUTUM, *for* septem, *read* decem; *and in the English*, p. 65, *for* seven, *read* ten.

— 68, line 4. *For* uncias, *read* fluiduncias; *and in the English*, p. 69, *for* one pint, *read* twelve fluidounces.

At the end of this formula add

Agitando misce hujus ætheris fluiduncias quatuordecim cum potassæ uncia dimidia in aquæ distillatæ unciis binis soluta; dein calore ad gradum CXX, ex retorta ampla in excipulum frigidum distillent fluidunciæ duodecim.

And in the English,

Mix by shaking fourteen fluidounces of this ether with half an ounce of potass dissolved in two fluid ounces of water. Then, with a heat of 120°, distil twelve fluid ounces from a large retort into a cold receiver.

Page 70. *Under* ALCOHOL DILUTUM, *in both lines, for* octantem unum, *read* libram unam; *and in the English, in both lines, for* pint, *read* pound.

— 74, line 5. *For* AMMONIÆ CARBONAS, *read* AMMONIÆ SUBCARBONAS; *and in the English*, p. 75, *for* CARBONATE OF AMMONIA, *read* SUBCARBONATE OF AMMONIA. *Make a corresponding correction wherever this name occurs.*

— 78, line 1. *For* ANTIMONII OXIDUM, *read* ANTIMONII OXIDUM SULPHURATUM; *and in the English, for* OXIDE, *read* SULPHURATED OXIDE.

On the same page insert the following formula:

ANTIMONII OXIDUM.

R. Antimonii in pulverem triti uncias octo ;

Potassæ nitratis in pulverem triti libras duas.

Misce et gradatim in crucibulum igne rubens immitte. Ure materiam albam circiter horam dimidiam, et frige factam in pulverem tere; dein aqua distillata lava.

And in the English,

OXIDE OF ANTIMONY.

FORMERLY DIAPHORETIC ANTIMONY.

Take of Antimony, in powder, eight ounces;

Nitrate of potass, in powder, two pounds.

Mix and throw them gradually into a red hot crucible. Burn the white matter for about half an hour, and, when cold, powder it; after which wash it with distilled water.

Note. The above is the article directed p. 176 and p. 178.

Page 82. *After each of the names, AQUA MAGNESIÆ, AQUA POTASSÆ, and AQUA SODÆ, insert SUPERCARBONATA; and before the English names of the same articles, p. 83, insert SUPERCARBONATED.*

— 84, line 5. *For octantes decem, read congium unum; and in the English, p. 85, for ten pints, read one gallon.*

— 86. *In the name of the second article, for ARSENIATIS, read ARSENITIS.*

— 93, line 4. *For boiling water, read boiling distilled water.*

— 104, article 4. *For SCAMMONIÆ, read SCAMMONII, et passim.*

— 106, line 7. *After Glycyrrhizæ, insert radicis; also on pages 112, 114, 150, 178, 180, 212, 240.*

— 107, lines 7 and 8. *Transpose the words three and four.*

Line 8. *After Liquorice, insert root; also on pages 113, 115, 151, 179, 181, 213, 241.*

— 108, 1st and 3d articles. *Transpose LIQUOR to the beginning of the name. Line 7. For PRÆPARATUM, read PRÆPARATUS.*

— 110, line 8. *Strike out cum semisse; and in the English, p. 111, strike out and a half.*

— 114, line 5 from bottom. *After Guaiaci read ligni. Ditto p. 212, l. 18. In English insert wood.*

— 116, lines 16 and 17. *After VERATRI add ALBI.*

— 124, line 14. *For madefiant, read madefactis.*

— 165, line 16. *Before antimony insert tartarized.*

— 166, line 8. *Between cum and aqua insert saccharo et.*

— 167, line 8. *For water, read sugar and water.*

— 188, line 5. *For carbonatis, read subcarbonatis purissimi; and in the English, p. 189, for carbonate, read pure subcarbonate. Ditto, p. 194, 195, l. 2.*

Line 6 from bottom. *For carbonatis, read subcarbonatis; and in the English, p. 189, for carbonate, read subcarbonate. Ditto p. 74, 75, l. 13, 12.*

— 190, line 10. *For CARBONAS, read SUBCARBONAS PURISSIMUS; and in the English, p. 191, for CARBONATE, read PURE SUBCARBONATE.*

— 192, 193. *Erase the formula for preparing POTASSÆ SULPHAS (SULPHATE OF POTASS) and transfer the article to the Materia Medica List.*

— 194, line 1. *For SUPERCARBONAS, read CARBONAS; and in English, for SUPERCARBONATE, read CARBONATE.*

Line 13. *For quindecim, read duodecim; and in English, p. 195, for fifteen, read twelve.*

— 194, line 20. *Remove TARTRAS to the end of the name.*

— 203, line 17. *For twenty, read twenty-four; and l. 22. for twenty-four hours, read two days.*

— 220, line 3 from bottom. *Strike out diluti.*

— 223, line 6. *For Liquorice, read Extract of liquorice.*

— 228, for the names of the two first formulæ, *read TINCTURA FERRI ACETATIS, and TINCTURA FERRI MURIATIS.*

— 240. *Under TINCTURA SENNÆ AROMATICA, insert Rhei contusi unciam unam; and in the English, p. 241, l. 3, insert Rhubarb bruised, one ounce.*

Page 246, lines 10 and 12. For *nitrosi*, read *nitrici*; and, in 12th line, for *sex*, read *quatuor*; and in the *English*, p. 247, for *nitrous*, read *nitric*, and for *six*, read *four*.

— 248, bottom line of note. *Strike out* seu terebinthinæ; and in the *English*, p. 249, *strike out* or of turpentine.

— 253, line 10. For *Mix*, read *Melt*.

NOTE. When the word *parts* is used in the Pharmacopœia, parts by weight are to be taken.

ERRATA IN THE LAST NUMBER.

On page 122, for 'Pierson,' read 'Peirson;,' on page 124 in the note, for 'Morbillis et febra scarlatina,' read 'Morbillis et febre scarlatina.' On page 124, note, for 'hostum expellere, regiâ viâ, per cuticulum' read 'hostem expellere, regia viâ, per cuticulam.' On page 125, for 'Case 3,' read 'Case 1st.' On page 126, 4th line from top, for 'Case,' read 'Case 2d.' On page 124, fifth line from top, for 'relieved of the bleeding,' read 'relieved by the bleeding.'

OBITUARY.—Died at Medway May 10th 1822, Dr. Abijah Richardson, aged 70.

Dr. Richardson was born in Medway August 30th 1752. In 1770 he entered Harvard College, where he continued about two years. He then commenced the study of medicine and was appointed surgeon in the revolutionary army, in which capacity he served five years. After leaving the service, he established himself in his native town and continued to practice there until his death. Dr. Richardson was a counsellor of the Massachusetts Medical Society, and sustained several officers of trust in his native town. He married Miss Mercy Daniels of Medway, by whom he had ten children, nine of whom, with his wife, survive him.

Few physicians pass their professional career more honoured and beloved than Dr. Richardson. Though his practice became extensive and his reputation very high, yet so upright was his character and so strictly honourable his conduct that his success and eminence excited no feeling of jealousy or envy among his professional brethren.

It seemed always to be the desire of Dr. Richardson to found a reputation upon actual merit, rather than to hold it by the precarious tenure of popular favour. He wished to possess it only so far as he deserved it. He therefore studied his profession as a science, not as a trade. He did not neglect to make himself acquainted with the collateral branches of medicine, aware that fame, to be sure and lasting, must have a broader foundation than a bare knowledge of the practical part of the profession. It was in the study of the vegetable creation, however, that he seemed in a special manner to delight. His fondness for this branch of natural science arose almost to enthusiasm, and so indefatigable and successful were his researches that he became perfectly familiar with the nature and properties of most of our vegetable products. Blessed with an uncommon memory, and a mind industrious, persevering and inquisitive, he accumulated an unusual stock of information upon almost all subjects. As a husband and a father he was tender and exemplary, constant and ardent in his friendships—affable and communicative in his intercourse with his fellow men,—with a heart kind and benevolent, he became rivetted in the regard of all who knew him.

[Communicated.]

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Observations on the efficacy of Bloodletting in Hemoptysis. By
RICHARD HAZELTINE, M.D. &c.

[Communicated for the New England Journal of Medicine and Surgery.]

A ROUGH draught of these observations was sketched nearly four years ago; and they were occasioned principally from the incident of the writer having met in a *then* recent medical publication,* a statement that Dr. Rees, a late English medical author, 'asserts that he has seen great and irreparable mischief produced by the use of the lancet in cases of hemoptysis, and knows the practice to be prejudicial.†

The method I shall pursue in the discussion of this subject, will be, 1st, concisely to review the opinions of some late celebrated medical writers and practitioners in opposition to the practice of bloodletting in hemoptysis: 2dly, slightly advert to the opinions of those who are in favour of it: 3dly, state the result of my own experience: 4thly, consider the circumstances of the system by which I conceive the practice to be justifiable: and 5thly, relate two instructive cases by way of illustration.

I. I know of no writer, of so much celebrity as a practitioner, who has in terms so unqualified, condemned the practice of bloodletting in hemoptysis, as 'the bold eccentric, dogmatic

Vide, Dr. Thacher's 'American Modern Practice,' page 430.

† Dr. Rees' work is reviewed in the N. E. Journal of Med. and Surgery, Vol. 5, page, 99.

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Marryatt, as he has been emphatically called. His opposition, however, is expressed in a strain of severe ridicule, rather than of fair reasoning and argumentation. Dr. Marryatt, had, I believe, in his day, the reputation of being a very successful practitioner; but if he were so in fact, it evinces how much a man's fame as a skilful physician may be owing to other circumstances than his correct scientific knowledge; for on a perusal of his 'Art of Healing,' his practice appears in some instances to have been not only altogether empirical, but in many respects injudicious, and sometimes contradictory. Notwithstanding his decided disapprobation of the use of the lancet in hemoptysis and some other diseases; in the course of his work just named, he has occasionally introduced opinions and positions which would give the most strenuous advocate for the practice of bloodletting in the treatment of diseases, almost all the latitude he could wish for. I can easily conceive that the peculiarities of the times and circumstances in which Dr. Marryatt lived and wrote, might lead him to adopt erroneous opinions on this subject; for they were probably such peculiarities as have since his time led others into the same errors: and from a careful examination of his book in order to make up an opinion respecting the utility of bloodletting in the treatment of hemoptysis it must, in my humble opinion, be considered, at least, of very doubtful authority.

The late ingenious and philosophic Dr. Darwin, who, in general, is sufficiently in favour of bloodletting in the treatment of diseases, prescribes it only in what he denominates 'Hæmoptoë arteriosa.' In his 'Hæmoptoë venosa,' he does not name bloodletting; but if the practitioner be governed in his prescriptions by Dr. Darwin's physiological and pathological principles, he will feel himself justified in the use of bloodletting in 'hæmoptoë venosa' and in every variety of venous hemorrhage, even although the effused blood be of a dark colour; which circumstance is considered by some, as interdicting bloodletting, among whom is Dr. Thomas; for while he is taught that the venous system is only an extensive 'system of absorbent vessels,' and that bloodletting is a most powerful means of promoting absorption, both lymphatic and sanguineous, both which doctrines are abundantly inculcated in the 'Zoonomia,' he will not scruple to resort to that operation in the treatment of hemoptysis, whether arterial or venous.

It will doubtless be expected that I should take some notice of the celebrated Dr. John Brown, as one uniformly opposed to the practice of bloodletting in almost every form of disease; but whatever may be said in favour of the Brunonian system of

medicine, it will probably be admitted that *Brown* never confirmed his speculations by *much* practice.' His practical opinions are so opposed to those of the most successful practitioners who have ever lived, that with me he is no authority on the subject under consideration, and deserves no attention.

Dr. John Reid of London, in a late volume of 'Essays' on various subjects connected with the science of medicine, and abounding with observations and strictures, which; perhaps, in most respects, are fraught with the soundest sense, and of a character adapted to excite our highest admiration and esteem, speaks of bloodletting in the treatment of diseases with all that cautious timidity peculiar to those who judge of the effects of the evacuation, not from extensive experience, but from prejudice. It is presumed his opinion relative to the subject, will not much influence the conduct of practitioners in this country, when it is understood that he limits the operation to pleurisy and a few rare cases of apoplexy; and acknowledges that he has 'never met with an instance of proper fever which appeared to him to justify the opening of a vein.'

I am not ignorant of the opinions of the illustrious Dr. Heberden respecting the practice of bloodletting in hemoptysis and other forms of hemorrhage; but I approach them with much less awe than seems to impress the minds of many physicians who read his 'Commentaries;' for I was long ago taught that 'great men are not always wise;* and I can oppose to his opinions the successful and uniform practice of a host of his countrymen, whose authority, perhaps, is, on any medical subject, in no respect, inferior to his own: besides, I can easily conceive that there is a great difference between the constitutions of the people of the United States and the inhabitants of certain populous towns and cities in England; and that therefore the opinions of Dr. Heberden or any other English author ought not too much to influence the practice of the physicians of the United States.

Perhaps there are other Europeans writers whose authority is opposed to the practice under consideration; but I am unacquainted with the names of any such except Dr. Rees; and if others were known to me, it would be needless to mention them, as they would probably add nothing to the respectability or weight of character of those already named.

II. In adverting to authorities in favour of the practice of bloodletting in the treatment of hemoptysis, it would be mere trifling to introduce the names of those who have recommend-

* *Nemo mortalium, &c.*

ed it; I might as well at once, refer to almost all the practical writings which compose our libraries. It is presumed to be a fact, which hardly any one would be disposed to controvert, that all the most successful practitioners, both in ancient and modern times, who have left any records upon the subject, have approved of the practice.

So far as my opportunities have enabled me to ascertain the state of medical opinion in the United States; I am persuaded that a large majority of the physicians have been, and are, in favour of the practice which I am defending. To evince the correctness of this persuasion, I would refer to almost all the periodical and other medical publications which have issued from the press in this country, for the last five and twenty years; and to the opinions and practice of the most eminent and successful practitioners who have adorned the medical profession.

III. In forming an opinion on this subject, deduced from my own observation and experience, I should say, that there is no point of practice, the utility of which is better substantiated than that of bloodletting in hemoptysis. I have been concerned in the treatment of diseases above thirty years, and have seen hemoptysis in all its forms and under every variety of treatment; and have some time since adopted the conclusion, that if the circumstances of any case of the disease be such that bloodletting is inadmissible, or can be of no use; no essential benefit is to be expected from any course that can be pursued. Indeed I never knew a permanent cure of hemoptysis effected, without considerable loss of blood, spontaneous or artificial; but I have known many perfect recoveries by means of it.

IV. To judge of the merits of bloodletting in the treatment of hemoptysis, it is deemed proper to consider the state of the system in that disease; and some of the effects produced upon the system by bloodletting.

First: Of the state of the system in hemoptysis.

1. Hemoptysis sometimes occurs in a tuberculous state of the lungs; and is, occasionally, a circumstance indicative of such a state. Now a tuberculous state of the lungs gives no dangerous tendency to hemoptysis unless it be accompanied with phlogistic diathesis, or actual inflammation; but it almost always is accompanied with these circumstances of the system; and hence the necessity of bloodletting, as the most effectual expedient to remove those circumstances, as will presently be considered more at large.

2. Hemoptysis is almost always, at least in the north eastern states of America, I believe, accompanied with a plethoric state of the system. By a plethora, I mean a condition of the blood-vessels in which they are over distended with blood. It is not

necessary to a plethoric state of the system in a delicate, slender female, that she should have as much blood circulating in her system of vessels, as is contained in the sanguiferous system of a strong, robust man: her vascular system may not contain half the quantity of blood that his does, and yet she may suffer from plethora while he shall enjoy perfect health. In her, the solids and fluids shall not be well proportioned to each other, and she shall be visited with hemoptysis or some other form of hemorrhage; while his system shall be well balanced, and he shall enjoy sound health. Now plethora gives no dangerous tendency to hemoptysis, except as it is a predisposing cause of inflammation, and a condition of the system in which inflammation is peculiarly liable to occur. It is proper here to observe, that those cases of hemoptysis which are owing to defective venous absorption, and characterized by an effusion of blood which is dark coloured and grumous, are, perhaps always accompanied with a plethoric state of the system.

3. Hemoptysis may be, and in my opinion, commonly is, accompanied with a phlogistic diathesis; and this circumstance, with or without tubercles, gives the disease all its danger; for while phlogistic diathesis is present, any lesion of any part of the system, is liable to be followed by suppurative inflammation; and while this species of inflammation prevails, no lesion can be healed. Now in hemoptysis there is a lesion; there is a rupture of some blood vessel; and if this happen in a system predisposed to inflammation, or in which inflammation already exists, especially that species which has been denominated 'suppurative;' the rupture will not readily heal; hence a foundation is laid for phthisis pulmonalis.

If the foregoing positions be correct, it is evident that phlogistic diathesis and actual inflammation are the only circumstances which render hemoptysis, of itself considered, dangerous. It is not a tuberculous state of the lungs, nor the rupture of a blood vessel merely, nor the effusion of blood, unless the latter be so profuse as to put a speedy period to life, that gives hemoptysis its danger; but a phlogistic diathesis and actual inflammation: balls, and puncturing instruments have penetrated almost every part of the substance of the lungs, and profuse hemorrhages have followed; and cases of hemoptysis have been known in which immense quantities of blood have been brought up; but such cases have not terminated fatally; and why not? because such effusions of blood have effectually removed phlogistic diathesis, if present, and prevented any degree of inflammation more than what was necessary for the healing of the wound, and nature herself has accomplished a cure.

Now if phlogistic diathesis and actual inflammation be the only circumstances of the system which give any dangerous tendency to hemoptysis; in order to cure the disease, we have only to ascertain, and put in operation, the best means of obviating and removing those circumstances. This brings me to the

Second thing proposed under this head, which is, to consider some of the effects produced upon the system by bloodletting.

It is believed that the pathology of hemorrhagy clearly warrants the following conclusions, viz. 1. That plethora, either arterial or venous, is always a predisposing cause of hemoptysis. 2. That there is always increased action in a vessel from which there is an effusion of blood, if the effusion be owing to an internal cause. 3. That hemoptysis is almost always accompanied with phlogistic diathesis and actual inflammation, or, if these circumstances do not in fact accompany hemoptysis, they are almost always its immediate consequences, and give it its danger.

Now it is well known that bloodletting is the most powerful means of which we can avail ourselves, to remove plethora; to diminish increased action; and to take off phlogistic diathesis and actual inflammation; and hence it is concluded, not only from reasoning, but from observation derived from experience, that it is especially adapted to prevent and cure hemoptysis.

If I am not deceived, hemoptysis at least in this part of the United States, is commonly attended with a hardness of the pulse; and this, I consider a pathognomonic sign of phlogistic diathesis and actual inflammation. Although the pulse may be small, it is commonly hard; and this circumstance, which, perhaps, is of more importance than all others, in determining the nature of the treatment to be pursued, indicates, and will justify, bloodletting.

But are there not cases of 'oppressed' or 'suffocated arterial action, in which the pulse may be "obscure, oppressed, irregular, sluggish, and sometimes intermitting," and in which, if hemoptysis were to occur, bloodletting would be as certainly indicated, as in a contrary state of the arterial system? There undoubtedly are such cases; and such have occurred under my own observation.

It would be needless to make large and formal quotations from medical books to prove the correctness of these positions and conclusions; a concise reference to a few of the most respectable medical writers will suffice. Dr. Cullen maintains that hemoptysis is owing to arterial plethora, and accompanied with phlogistic diathesis. Dr. Darwin ascribes 'hemoptœ venosa' to defective venous absorption; which is understood to be but another expression for venous plethora. Dr. Huxham,

speaking of an oppressed pulse, says, the cause of it is 'not the defect, but the too great quantity of blood; by which the blood-vessels are so far over distended that they cannot act with sufficient vigour.' Dr. Rush says 'there is seldom an issue of blood from any vessel in which there does not exist preternatural or accumulated excitement.' Dr. Cullen says that the '*Diathesis Phlogistica*' is always attended with a hardness of the pulse; and is most effectually taken off by the relaxing power of bloodletting.' Dr. Huxham says, 'the hardness of the pulse is one of the most *pathognomonic* signs of an inflammation of membranous parts.' Dr. Philip says, 'some degree of inflammation always attends active hemorrhagy;' and it is believed that hemoptysis, at least in the North-eastern states of America, is commonly of this kind. But without reference to the opinions and practice of others, I must be allowed to consider my own experience a sufficient voucher, at least to myself, for the correctness of all that is advanced on the present occasion on this subject.

It must not be forgotten, however, that there are cases of disease accompanied with a 'tense pulse,' which I consider but another phrase for a 'hard pulse,' in which bloodletting is inadmissible. These cases are clearly pointed out by Dr. Rush in his '*Defence of Bloodletting*;' to which I would beg leave rather to refer any one, than introduce a quotation.*

Bloodletting, by diminishing the quantity of fluid, diminishes the diameter of the vessels, and disposes to adhesive, instead of suppurative, inflammation; and thereby gives the ruptured vessel an opportunity to heal, and become sound; which, it is believed, is more than can, in truth, be said of any other remedy.

It is a rule with me to take so much blood at once, or by a repetition of the operation, as to produce some sensible degree of languor or feebleness; unless, from a consideration of the circumstances, it should be thought that a smaller quantity will suffice. It is an object with me to bleed according to the state of the pulse, and the apparent fulness of the sanguiferous system, till plethora, phlogistic diathesis and actual inflammation, be effectually taken off; and till the rupture in the vessel be perfectly healed: then, such a course of diet, exercise, and clothing, is to be pursued, as will prevent a recurrence of plethora and phlogistic diathesis, and determine the fluids as much as possible to the surface of the body. And, to restore a healthy degree of vigour to the system, I know of nothing better than suitable exercise; and plain wholesome food of easy digestion,

* *Medical Inquiries and Observations*, Vol. 4, edition 3, page 368.

and in moderate quantities. Tonic medicines, as they are called, do, in these cases, in my humble opinion, incomparably more harm than good ; as they invite a return of the same condition of the system which it was the object of bloodletting to take off.

It is not intended to go into a consideration of other remedies in the treatment of hemoptysis, as it would consume too much time, and would not comport with my original intention, which was merely to discuss the merits of bloodletting : I will, however, just observe, that after bloodletting has been performed according to the exigences of the system, I have found no remedy so effectual in restoring health in females labouring under this disease, as spinning at the great wheel. It must be begun as soon as circumstances will admit, even if it be pursued only at short intervals during the day ; and persevered in, more and more constantly for a few weeks, or even a year ; and afterwards resumed, as occasion may require, to remove or prevent most of the circumstances of chronic debility.

Physicians have been deterred from bloodletting in hemoptysis, from a regard to certain circumstances of the system, independent of the state of the pulse, and the apparent fulness of the blood-vessels ; thus 'where there are marks of debility and laxity,' and where the blood effused is of a dark colour, and grumous, it has been said that bloodletting is improper : but I am of a different opinion ; for it is well known, that the debility in such cases is of the indirect kind, and owing to excessive arterial action ; and is, therefore, most effectually to be removed by bloodletting : and the laxity, and dark-coloured blood are owing, at least the latter, to defective venous absorption, and are to be obviated by means of the same remedy, judiciously employed. I repeat, *judiciously employed* ; for it must be remembered, that there is no remedy of which the salutary effects are more dependent on a proper exercise of judgment,—or in other words—on knowledge derived from experience, than bloodletting. In the treatment of hemoptysis, bloodletting must be regulated by a proper regard to *quantity* and *time* ; and if so regulated, it will most certainly prove salutary, if any thing will ; whereas a slight deviation in either of these particulars, will render it not only useless, but, perhaps, prejudicial.

I have almost always observed that those physicians who are opposed to the practice of bloodletting in hemoptysis, are those who hardly ever bleed in any cases of disease, and who *never* have bled in hemoptysis ; such, therefore, are to be considered very incompetent judges of its effects ; and their example and opinion on the subject are not to be regarded.

In the course of my practice I have sometimes met with persons who appeared to entertain a singular notion respecting the nature and treatment of hemoptysis; and I have, indeed, been surprised to find a few physicians who did not reason more profoundly on the subject. The notion to which I allude is this, viz. : that 'an effusion of blood is a proof of a paucity of blood.'

This erroneous notion, it is believed, has led to much erroneous practice. It would seem to be more correct to say, that 'an effusion of blood cannot take place from any vessel, from any internal cause, but over-distension, or too much blood;' i. e. from a disproportion between the capacity of a vessel and its contents.

When hemoptysis is accompanied with a tuberculous state of the lungs, bloodletting is to be viewed, perhaps, in no other light than as a *palliative*; and as such I have found it very serviceable. In all other cases, if it be judiciously employed, and a suitable regimen be observed, and a few auxiliary remedies be occasionally administered to remove pain, cough, &c. I believe it will generally cure; and thereby prevent phthisis pulmonalis, of which it is so frequently the alarming harbinger.

There are cases of hemoptysis accompanied with a pertinacious cough, by which the effusion is not only increased when present, but is more liable to recur; in such cases bloodletting has been found particularly efficacious. The case of the late Dr. James Currie of Liverpool, England, of which we have an account in Darwin's *Zoonomia** given by Dr. Currie himself, although not attended at the time with hemoptysis, had been preceded by it, is most interesting and instructive; and on several accounts so nearly allied to the cases just alluded to, that I cannot omit to refer to it, as highly deserving the consideration of those physicians especially, who are deterred from bloodletting in hemoptysis, by reason of the concomitant debility.

Although it be acknowledged that bloodletting, in hemoptysis accompanied with a tuberculous state of the lungs, is chiefly to be valued as a *palliative*, by preventing and removing inflammation; still it may be asked with much confidence, whether physicians do possess any remedy that promises so much to promote the RESOLUTION of tubercles, as bloodletting?

It would be needless to introduce the histories of particular cases with a view to establish the correctness of the opinions herein advanced; matter might be furnished for a volume: cases could be related which would exhibit the inefficacy of a great

* *Zoonomia*, Class ii. 1. 6.—British 'Public Characters' Vol. 2. 'Dr. Currie.'

variety of medicaments, such as tonics, astringents, stimulants, sedatives, demulcents, agglutinants, &c. &c. &c. under the direction of some of the most eminent practitioners in the United States: cases could be related in which bloodletting was sparingly employed, and too much confidence reposed in other means; but without success: cases could be related in which bloodletting was employed to the exclusion of almost every other remedy, and with complete success: cases could be related in which a profuse effusion of blood prevented its own recurrence, and every unpleasant consequence, by at once taking off plethora, phlogistic diathesis, and actual inflammation: but I forbear; and shall

Fifth and lastly, close this paper with the history of two cases only, which I consider remarkably instructive; and which, as they were not my own, will, perhaps, deserve the more attention.

CASE FIRST

is that of the late Jason Fairbanks of this Commonwealth, who, in the year 1801, was executed at Dedham, for the murder of Miss Betsy Fales.—This young man had been constitutionally infirm from his birth. He had always been an invalid. His complaints had been pain in the side, cough, and occasional, and, if I do not misremember, frequent, hemoptysis, and, what was called, general weakness. His infirmities were such, that he never could labour, or take any considerable exercise, without manifest injury and danger of a recurrence of hemoptysis; and he was bred to no employment. He was known to be habitually so slender and feeble, that it was argued in his defence, at his trial, that he did not possess sufficient muscular energy to inflict the fatal wounds on the body of the young woman, if she had made any vigorous resistance. From the wounds which his own body exhibited, he sustained a loss of so much blood, that when he returned to the mansion house of the young woman's friends; he was pale, faint, and exhausted; and could not maintain an erect position, without staggering. His wounds became gangrenous; and his life was despaired of. He at length, however, recovered, and became possessed of what he had never before enjoyed—A STATE OF PERFECT HEALTH. He escaped from prison, and prosecuted a journey by night and by day, of one or two hundred miles, if I mistake not, and endured, without injury or inconvenience, hardships for which his former infirm condition would altogether have disqualified him. He was pursued; overtaken; and remanded to prison. He continued perfectly healthy; even to the time of his execution, having been constantly able to

eat, drink, and sleep, with as good a relish and as much satisfaction, as any man living.*

Now it is presumed, that those physicians who maintain that the foundation of hemoptysis consists in pure, unmixed debility, independent of, and unconnected with, plethora and increased arterial excitement, will not admit that the situation of Jason Fairbanks as a felon, could operate on him as a restorative to health; on the contrary, if their theory be correct, the 'depressing passions' as they are called, would have rendered him much more liable to a recurrence of his former complaints.

If Jason Fairbanks had been pardoned, and returned to his former habits of living, he would probably, ere long, have again become plethoric, and his old complaints would have recurred, unless seasonably prevented by bloodletting, abstemious diet, and active exercise or labour. With a judicious employment of these means, he might undoubtedly have secured to himself the enjoyment of a long and uninterrupted continuance of perfect health.—The

SECOND CASE

which I shall relate, and with which I shall conclude this communication, protracted already, I fear, to an unwarrantable length, is that of the late Rev. Dr. SAMUEL STANHOPE SMITH, President of New-Jersey College; narrated by Dr. Smith himself, in a letter to the late Dr. Rush, dated March 19, 1798.—I shall transcribe the letter.

'A certain weakness of my breast, and tendency to hemorrhage, was hereditary on my mother's side of the family, whom I was supposed to resemble in constitution and countenance. Shortly after I was licensed to preach, I was thrown into a situation which required unusual exertions. I had often to address very large assemblies, at least three times in the week, and frequently every day. In consequence of these efforts, at the end of about three years I began to raise small quantities of blood, at the close of each discourse. This symptom continued to increase; and during nearly four years more, though I moderated my exertions, and made them much less frequent, I raised some blood at the end of almost every sermon I delivered, and sometimes in considerable quantities. The spitting often continued in a less or greater degree for several days afterwards. I was at length obliged to intermit preaching entirely for the space of

* The foregoing facts were derived from the published account of his trial, and from a publication of his brother, a few weeks or months subsequent to his execution.

eight months, during which time I spent part of a season at the sweet springs in Virginia. I recovered a tolerable, though a delicate state of health. At this period I was removed to Princeton, where speaking to small assemblies, and in a chapel happily accommodated to favour the voice, I continued to preach, and to attend my other duties in the college, during two years, with increasing health and vigour. In the autumn of the year 1792, I suddenly broke a blood vessel in my breast, as I was walking. A considerable quantity of blood issued from the wound; but by bleeding copiously at my arm, the flux from my breast at that time was stopped. Nearly about the same time in the next evening I felt my pulse quicken, and an unusual tension growing on all my nerves, and, in a few seconds, the blood began to spout with great velocity through my mouth and nose; I was again bled largely twice in the course of the evening, from my arm and foot. The following evening a similar paroxysm returned, and the blood again spouted with great force from my mouth. The physician was sitting on my bed side at the time; and when I perceived the quickening of my pulse, and that strange stricture coming, as it seemed to my feeling, on the whole system of the nerves, I gave him notice of it, and requested him to bleed me. He refused, and said so much bleeding would only tend to bring on an habitual hemorrhage by debility. I told him I would rather die bleeding from the arm than from the mouth. At last, when he saw the force with which the blood issued, and, in consequence of my earnest solicitations, he bled me again. I requested him to leave me his lancet, and I would be answerable for my own life. This he reluctantly consented to do. At this time two other physicians were called in, who bled me twice more the same evening before they could effectually stop the flux of blood from my mouth. Next day I expectorated nearly a pint of clotted blood that had been lodged some where in the cavities of the lungs. Being now in possession of a lancet, and apprised by experience of the symptoms that preceded the return of my disorder, I determined to anticipate it, and, when the physicians were not present, to open my own veins. This I did accordingly, whenever I perceived the symptoms I have already mentioned, which now recurred more frequently for four or five days. After that period they subsided. But I continued bleeding at the arm two, three and four times in the day, till the tenth day. My intention was to take off the impulse of the blood from the wounded part, to prevent an inflammation, and to give it time to heal. I may, perhaps, have bled myself oftener than was necessary. After pursuing this

course, however, the flux of blood no more discovered itself from my breast. Two and thirty times I was bled in the space of ten days, in my arms and feet, besides what flowed from my mouth. And it was computed, from the dimensions of the vessels in which it was received, and other circumstances, that I lost, in that time, at least two gallons of blood. Even in this reduced state, so great was my apprehension of the hemorrhage in my breast returning, I continued to bleed at the arm twice in the week for some time, afterwards once in the week, and finally, once in a month during several months; though not in large quantities at a time. After the hemorrhage was entirely stopped, my flesh wasted away for the want of its proper nourishment in the blood, till not a muscle could be perceived in any of my limbs. The skin appeared to be drawn almost close to the skeleton—I spoke only in a whisper—and I was not sensible of having forgotten myself for a moment in sleep during six weeks. My complexion was tinged with a yellowish hue, and an acid so prevailed in my constitution, that with my tongue I have frequently curdled a small bowl of milk. For more than three months I could not use bread, or any vegetable substance in my diet. I lived chiefly on beef liquor, soups, and white meats. I drank a little weak wine and water frequently; but after many trials, I found porter as a drink agree best with my stomach, and at the end of some months I used it freely and constantly. As soon as I could bear the motion of a carriage, I took gentle exercise in that way. Afterwards when I could sit a horse alone, I was helped into the saddle, and every day rode a small distance, increasing it gradually till I rode from twelve to fifteen miles in a day. Here my recovery was at a stand for some months, when I resolved to try the effect of a long journey on horseback. I rode first into Connecticut, and afterwards to Boston, in which journeys I laid the foundation of that good health which I have now continued to enjoy for more than ten years; and my voice, particularly, is clearer and stronger than it ever was. A habit that frequently required aperient medicines, was greatly increased by loss of blood, and for more than seven years I was obliged to have daily recourse to them. A pint of beer or of cyder at any time sufficiently answers the purpose. This fact is contrary to another principle of many physicians, and contrary to the pressing advice of several of my medical friends, rather to struggle with the disease than to use so constantly the medicines necessary to overcome it. They assured me that I should totally destroy the tone of my bowels, and perhaps fall an early victim to my remedies. However, resolved to live as comfortably as pos-

sible while I should live, and not solicitous for a prolonged existence of sickness and pain, I persisted in my own course; and I now find that the medicine was infinitely less pernicious than the habit, and that, contrary to prediction, it has relaxed the tone of my bowels just to that state in which it ought to be. I have found however, many years ago, that a small pressure upon them impeded their regular action, and produced sickness at stomach, and pain in the head. This induced me to invent a kind of suspenders to relieve my stomach, long before I knew that fashion would employ them to shew the shape to more advantage. My own experience has convinced me that persons of delicate habits often suffer greatly from tight waistbands, when they are not able to assign the cause, and especially women, from the manner in which many of them tie their clothes, and the weight they suspend in their pockets.

'Thus, sir, I have given you the history of my disease and the treatment of it, which, I doubt not, you will pronounce uncommon. I have gone back to an early period of it that, having all the facts before you, you might form a more accurate judgment of the whole. I have, perhaps, carried my bleedings somewhat farther than was absolutely necessary; but, in such cases, it is difficult to fix the point of strict necessity, and success has justified my rashness. And I am persuaded that, to great bleeding, and the thick flannels in which I immediately wrapped myself, all with the view of taking off the impulse of the blood from the wound in my breast, I owe my freedom almost wholly from inflammation and cough. I judge thus, because in many instances since that time, when I have imprudently taken cold, and feared the effect of the cough on my breast, I have had immediate recourse to increase of flannel and to bleeding, which have relieved me in a very short time.

'I have had no medical education, and have had no theory to bias my mind. What I have done at any time contrary to advice, I have done, impelled by the urgency of symptoms, or led by probable conjectures concerning the effect of the means I used, without being restrained by *principles* which might, perhaps, have intimidated me. I draw no general conclusions from my particular case. This you will be better able to do when you have compared it with so many others which must have come under your observation. I believe it would be dangerous for an indolent and inactive person to be reduced so low by bleeding as I have been, or one who had not equal resolution to make the exertions necessary to recover him from

that state. Activity in duty, and firmness of mind are often among the best remedies. I am, dear Sir, &c. &c.

SAMUEL S. SMITH.*

Had it been my original intention to suggest any thing more than a few general hints on the utility of low diet and exercise in obviating plethora, and thereby preventing and curing hemoptysis, I could have introduced, among other cases, that of my medical preceptor, the late Dr. Philip Carrigain, of Concord, N. H. He commenced the practice of physic at an early period of his life, possessed of a very slender constitution, and subject to frequent and profuse hemoptysis. He told me it was not unusual for him, after having ridden several miles to visit the sick, upon dismounting, to bring up from half a pint to a pint of blood, as fast as he could expectorate it. It was impossible for him, on account of bad roads, to pursue his business in any other way than on horseback; and yet he was determined to pursue it as long as he could ride; for he observed, that when riding, he brought up no blood. Besides frequent bloodletting to obviate plethora, he conceived the idea of the efficacy of breast-milk, and resolved to have recourse to it. Of every nursing woman whom he met, he solicited permission to draw her breasts. This course he followed rigidly for at least a year, taking, during that time, little or no other nourishment, except cow's milk, when he could not find a supply of breast-milk. At the end of the year he had become quite free from hemoptysis; but never recovered perfect health and vigour, till the natural small-pox, which he took, when about 25 or 26 years old, and which, though it very nearly carried him off, completely revolutionized his constitution. He never experienced a recurrence of hemoptysis more than once or twice afterwards. He died at the age of 57.

Note.—The writer has to acknowledge, that the foregoing case of the Rev Dr. Smith, is extracted from the Second Volume of the 'Philadelphia Medical Museum;' and he flatters himself that the editor* of that excellent work, will take no exception to the use made of it in this instance.

* Dr. Coxe.

On a peculiar disease resulting from the use of Ardent Spirits.

By JAMES JACKSON, M.D. Professor of the Theory and Practice of Medicine in Harvard University.

[Communicated for the New England Journal of Medicine and Surgery.]

AMONG the diseases, arising from the use of ardent spirits, there is one, which is very distinctly marked, but which I

have never seen described. Several instances of this disease have occurred to my notice, and I regret to say that they have been mostly among females. For want of a better name I have called this disease *arthrodynia a potu*; but this name may convey some false notions, as will appear in the sequel, though none better has suggested itself to me.

This arthrodynia comes on gradually. It commences with pains in the lower limbs, but especially in the feet; and afterwards extends to the hands and arms. The hands may be affected first in some instances; and in all cases in an advanced state, the pain is more severe in the feet and hands, than in the upper parts of the limbs. The pain is excruciating, but varies in degree at different times. It is accompanied by a distressing feeling of numbness. After the disease has continued a short time, there takes place some contraction of the fingers and toes, and an inability to use these parts freely. At length the hands and feet become nearly useless, the flexor muscles manifesting, as in other diseases, greater power than the extensors. The whole body diminishes in size, unless it be the abdomen; but the face does not exhibit the appearance of emaciation common to many visceral diseases. This diminution is especially observable in the feet and hands; and at the same time the skin of these parts acquires a peculiar appearance. The same appearance is sometimes noticed, in a slighter degree, in the skin of other parts. This appearance consists in a great smoothness and shining, with a sort of fineness of the skin. The integuments look as if tight and stretched without rugæ or wrinkles; somewhat as when the subjacent parts are swollen; but the skin is not discoloured. Yet in this disease there is not any effusion under the skin, and the character, which this assumes, arises from some change in the organ itself. A similar appearance may sometimes be seen, I think, in cases of paralysis. It may arise perhaps from similar causes in the two diseases; for in this *arthrodynia* there is a partial paralysis. But here the paralysis is to be referred to some affection of the muscles, and not to the nerves, as in common paralytic cases.

The most characteristic symptoms of this disease are manifested in the limbs; but the pain is not limited to these, and other symptoms are exhibited in other parts. The pain sometimes shoots suddenly up one or both legs, and in one case it frequently passed up the back and then forward to the pit of the stomach, taking the course of the diaphragm. The functions of the stomach are always impaired and generally very much. The appetite is lost, or is morbid, the patient craving only the most powerful stimulants; the food is often rejected, and constipation

or diarrhoea take place. The mind is weakened; but it is free from delirium ordinarily, and is alive to the horrible sufferings of the disease. Sleep is prevented by pain and is procured only by opiates.

In the progress of the disease spasmodic affections often ensue, and both mind and body are liable to be disturbed and agitated by slight causes. The powers of life at length are exhausted and delirium perhaps occurs at last, as a precursor to dissolution.

I believe that this disease is always fatal, when the use of spirituous liquors is not abandoned, before the powers of the digestive organs are greatly impaired. In private practice I have not been able to control patients in respect to the use of these liquors. Several years since, I saved one patient in the almshouse, having her under entire control there; and within the last year I have had one male patient in the Massachusetts General Hospital, who after six months treatment was dismissed almost well and capable of returning to labour.

I have employed various remedies, of which the following only appear to have been useful.

First, abstinence from spirituous liquors of every kind, either in the form of medicine, or in any other form. The effect of this abstinence is gradual, but it is so great, that it is difficult to say whether the remedies to be mentioned after this, have not appeared more useful, than they really were.

Second, opium in sufficient quantities to relieve the pain at night and procure sleep. For this purpose several grains have been necessary at first, in some cases; but in the course of a few weeks the dose being gradually diminished, the opium may be omitted entirely. It is important to do this as soon as possible.

Third, warm bathing, friction and other gently stimulating applications to the skin.

Fourth, the regulation of the stomach and bowels in such manner, as the circumstances of each case may indicate. I believe that, when there is any appetite, animal food is generally most useful.

A question always arises, whether vinous liquors may not be allowed, when distilled spirits are prohibited. As far as my experience has gone, this indulgence is unnecessary; and it is better to wean the patient at once from such gratifications. As opium is used, this may commonly be done with ease.

Boston, August 1822.

Case of Phthisis Pulmonalis with Ulceration of the Larynx.
By GAMALIEL BRADFORD, M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

TUBERCULAR Phthisis is unhappily so common a disease, and the impotency of medicine in opposition to its progress so generally acknowledged, that the history of an individual case may appear superfluous. The following, however, seemed worthy of detail, inasmuch as it was more than usually masked by other appearances; for though every instance of this disease is more or less insidious, in its earlier stages, it commonly becomes sufficiently evident, for a considerable period before its fatal termination;—the hectic paroxysm, quick pulse, emaciation, debility, diarrhoea, purulent expectoration and livid countenance render it obvious to the most careless observer.

Occasionally, however, we meet with cases in which the real seat of the disease is uncertain, even at an advanced period; and where the physician is willing to persuade himself that there is room for hope sometimes to excite expectations, which cannot be answered.

It is often particularly desirable that the friends of patients in this situation should be aware, at an early period, of their extreme danger, that the experiment of a change of climate may not be deferred, as it too frequently is, till no reasonable expectation of advantage can be derived from it; and a correct diagnosis is also important at this period, as the subjects of this disease are in many instances such as excite very general interest and observation—nature appearing, if I may so speak, to have marked the composition of some of the choicest of our race with the rudiments of a disease, which should shorten their probation.

In the following case, some of the distinguishing symptoms of Phthisis were not evident till near its termination; while those that were obvious, seemed to be explicable, upon the supposition, that the lungs were not in a state of disease. The progress of emaciation was not easily estimated in one who, in his best estate, was exceedingly spare; neither could the quick pulse and livid countenance be considered such dangerous symptoms, in a constitution so mobile and irritable, that very slight causes of anxiety were well known to be sufficient to produce similar appearances. The cough and irritation about the throat seemed to depend upon gastric disorder, which presented the most obvious phenomena, and the opinion, that the true seat of the disease was beneath the diaphragm, was strengthened by the fact, that

the father of the patient had, for many years been afflicted with hypochondriasis, in a severe degree.

The nature and degree of the affection of the larynx, is also worthy remark; as without this, the disease of the lungs might have made, in all probability, much greater progress, without destroying life. Morgagni records the case of a virgin, (Book 2d. Ep. 15.) whose only disease was an ulceration of the larynx; where the voice was hoarse, and much diminished, and death sudden; and that of a physician, who coughed up a piece of bone, which Valsalva judged to be a part of an ossified cartilage of the larynx; in which case also, the voice was hoarse, and death took place very suddenly; and the very dangerous nature of such an affection might be presumed *a priori*, from the analogy of the acute inflammation of this organ, which exhausts the powers of life more rapidly than almost any other, of so limited an extent.

The amendment of the disorder of the eyes, in proportion as that of the chest increases, is also an interesting phenomenon, when considered in connection with the subject of vicarious disease.

Lastly, some modern writers appear to have laid too much stress upon the dependance of *Phthisis* on derangement of the digestive organs; and to trust too much to means adapted to restore them. Such simple means, as are recommended for this purpose, are not likely, it is true, to do harm; but we should be careful not to expect, and particularly not to promise, much advantage from them, since we shall often meet with cases like the following, where simple medicines are inefficacious, and more active ones certainly prejudicial.

A gentleman aged 38, of a tall and slender frame, sandy hair, fair skin and hazel eyes, with a narrow chest and high shoulder-blades, of much mobility and irritability, brilliant intellectual endowments, lively sensibility, and social and amiable disposition, had been affected many years with weakness and inflammatory disposition of the eyes, which prevented much reading, or exposure to strong light, or cold winds. Towards the end of the summer of 1821, he was attacked with wandering pains in the limbs, and a peculiar spasm of the throat, which obliged him to stop frequently and suddenly in conversation, or public speaking. The spasm relaxed after a short pause; but its frequent recurrence, with other symptoms, induced him to apply for medical advice on the 20th of October following. Besides the symptom already mentioned, he had occasional hacking cough, which appeared to him to be excited by some irritation in the throat, with frothy expectoration; appetite diminished; bowels slow;

tongue coated with a yellow fur, most considerable in the morning; feverish heats in the evening; restlessness; debility; pulse excitable and varying from 90 to 100, somewhat hard and small; he had noticed no remarkable appearance of the urine or *foeces*; the skin was hot and dry, and the countenance anxious; he was not sensible of any pain in any part of the thorax; nor was pain or cough excited by deep and full inspiration; he could also lie on either side without either.

It was concluded that these symptoms were the consequence of irregularity of the digestive functions, and that the cough and spasm were sympathetic phenomena, analogous to some which occur in cases of hysteria, or hypochondriasis.

With this view of the case, such evacuants, mild tonics and laxatives were from time to time prescribed, as appeared best adapted to restore to the digestive organs, their natural and healthy action. The diet was regulated, and after a few days, the exercise in the open air, with the same view.

This course seemed to promise well, and was continued a month. At the end of this time, Nov. 20th, his strength had increased, and his appetite, sleep and evacuations improved. The spasm was less troublesome, but continued to recur occasionally; the cough, anxious countenance, and pulse seemed little altered for the better. As neither cough, dyspnoea, pain or spasm were excited by exposure to cold air, but only by fatigue or conversation in the house,—as neither cough or pain could be produced by full inspiration, and the expectoration was only a light froth, it was still doubted whether the lungs were the seat of the disease;—in order, however, to gratify the feelings of the patient and his friends, some pectoral medicines were now prescribed, and a warm plaster applied over the upper part of the sternum; but the former were soon discontinued, as they palled the appetite, and depressed the spirits.

Nov. 27th, in the evening, after a long ride in a clear, cold air, he spit up a small quantity of blood; he stated that it amounted to about a tea-spoonful, and that he had raised it without cough, and by a sort of hawking; a few drops, afterwards, were evidently hawked up, and mingled with a small quantity of snuff; there was no pain, either at the time, or afterwards; no soreness could be detected by full inspiration; the pulse was quicker than usual, but not more so, than might naturally be expected, in circumstances of alarm and mental agitation. A blister was notwithstanding applied over the chest; it produced spasms, severe strangury, and an eruption over the body, resembling the *Urticaria evanida* of Bateman. In consultation with Dr. Jackson, the following day it was concluded, that considerable disorder of the digestive

functions was evident; that the existence of serious disease in the thorax was not so; that although the quick, tense pulse, and something of a livid appearance of countenance seemed to indicate the presence of insidious organic disease; yet these symptoms might be ascribed to sympathy with abdominal disorder in a constitution, so extremely irritable and delicate; and the rather as appearances very similar, were well known to be often occasioned by anxiety of mind; that it was not expedient to exhibit much or active medicines, and that exercise in the open air, friction, light nourishing diet, a simple bitter infusion, with occasional laxatives, sufficient to obviate costiveness, were all the remedies indicated by the present state of the case. Under this treatment the cough and spasm were mitigated, and the appetite and strength increased; but the disposition to costiveness remained, and several times, during the winter, there was a distinct paroxysm of evening fever, and probably this occurred oftener than we were informed. He sometimes mentioned a kind of crackling under the right breast, but this was slight, and seldom noticed.

By the month of April he had amended so much in point of strength and appearance, as to afford us good hope of a favourable issue; he could ride on horseback 10 or 12 miles, without much fatigue, and walk several miles in windy weather, with tolerable ease. He used, about this time, the ointment of Tartar emetic over the throat, which he thought diminished the tendency to spasm. His appetite and sleep were better, and his eyes, which were, before his illness, so troublesome, gave him now little uneasiness. He was more cheerful and encouraged with the prospect of speedy recovery; about this time he began to extend his rides to considerable distances, and travelled in the stage 30, 50 or 100 miles; but this mode of journeying seemed to increase the tendency to constipation. In May 1822, he returned from a journey to Hanover, N. H. He had suffered considerably from constipation and hemorrhoids, and thought he had taken cold; he was fatigued; his countenance very livid, and a dark semicircle beneath the eyes; he had troublesome apthæ, hoarse and hollow voice, more frequent cough, and the expectoration thicker and yellow; pulse generally above 100; regular evening hectic; no pain or cough, however, was yet excited by full inspiration.

It was now pretty clear that the lungs were the real seat of disease; the dyspeptic symptoms soon disappeared, and the tendency to costiveness was easily removed; the appetite and nights were pretty good; the cough, after some days, was less troublesome; but the state of the pulse and apthæ continued the

same, and the strength diminished daily. He took, at this time, Griffith's myrrh mixture, and rode daily in a carriage; he was much troubled at times with difficulty of swallowing, and used an astringent gargle with little effect. On the 25th of June, he was unable to speak above a whisper, nor ever recovered his voice. The disorder of the eyes had now disappeared, and they had acquired a sort of glassy lustre; while the despondency, which had, in a greater or less degree, accompanied the dyspeptic symptoms, was changed for the well-known confidence and hope of tubercular phthisis. On Saturday, July 6th, he rode 3, or 4 miles in a carriage, and was particularly cheerful. On the following morning, he expectorated, suddenly, a considerable quantity of pus; and though he felt, as he observed, perfectly well, was unable to rise; his skin was cold and clammy, and the pulse 84, and feeble; a hectic paroxysm succeeded in the evening. On Monday, he continued to expectorate pus, and for the first time, a full inspiration produced slight pain, under the right breast. This was not present the next day, and the expectoration was diminished. Wednesday morning, at 6 o'clock, he conversed cheerfully; soon after, appeared disposed to sleep; his breathing became slightly stertorous, and he expired about half past nine, with a slight convulsion of the mouth and eyes.

Examination, 26 hours after death. The abdomen had externally a greenish shade, and some fetor was observed upon opening it; it contained about three pints of serum. The spleen was of a lighter colour than usual, and had a more shrivelled appearance. The liver, on the other hand, was darker externally, and resembled the usual colour of the spleen; internally it appeared perfectly natural. The interior of the stomach presented nothing unusual; that of the intestines was not examined. Some of the mesenteric glands were enlarged, but none above the size of a pea, and few so large. We perceived no other morbid appearance except that the omentum, as might have been expected, was destitute of fat. The serum was not probably an infiltration after death, as a disproportionate protuberance of the part had been observed a week before it.

The cavities of the left pleura and pericardium contained together two or three ounces of serum; the right lung adhered, by its whole surface, to the walls of the thorax, as did the left lung at its upper part. Both lungs were crowded with tubercles; a few in a state of suppuration, and some had run together, in two or three places, forming sinuses, which communicated with the bronchiæ.

The cartilages of the larynx were ossified, nearly throughout; there were also specks of ossification in the pharynx. The

upper and back part of the cricoid cartilage, in the lacunæ beneath the arytenoids, was denuded in two places by ulceration, which in one of them had removed a small part of the ossified cartilage, leaving the usual appearance of carious bone. No other morbid appearance was discovered. The body, the following day, was decomposing rapidly.

Cambridge, Aug. 1822.

Case of fatal hemorrhage from a varicose vein. By ENOCH
HALE, jr. M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

ON Sunday morning June 2d. I was called in haste at about seven o'clock to D. W. aged 47, I went immediately, but found him dead. He was a blacksmith, and had long been in the habit of intemperate drinking to a great excess. For twenty years or more he had been affected with varicose veins, and has had ulcers on one ankle. The veins have lately burst several times, and bled considerably, sometimes, as I was told, to the amount of a pint; and then the hemorrhage has stopped spontaneously, or with only such remedies as were used in the family without the aid of a physician. He had not however taken warning from these bleedings to take any care of the disease. He did not wear bandages nor any thing else to support the limbs.

On the morning before mentioned, he had risen pretty early and taken a walk, as was supposed but without violent exercise. He had returned but a few moments, when his wife, who was still in the chamber, heard him exclaim that he was bleeding to death. She ran instantly down and found him bleeding profusely from his right leg. The blood streamed out with great violence, first upon the floor, and afterwards into a pail which he had placed to receive it. She ran for a small tub of cold water into which the foot was put, and nothing else was done to check the bleeding. He very soon fainted, and in a short time expired. Several other persons came into the room almost as soon as his wife, and they all agreed in stating that it could not have been more than five minutes from the time that the hemorrhage began till he was quite dead. He had been dead several minutes when I arrived.

About two hours after, we examined the leg. There was a round orifice, about the size of a small quill, on the inside of

the right leg a little above the middle, from which the blood had issued. A probe introduced into the opening, seemed to pass in several directions into the veins. On cutting into the skin a large mass of irregular veins appeared, which were much enlarged and were connected together by hardened cellular substance. Near the bottom of this mass of veins, we met with a vessel which had at first much of the appearance of an artery, and which communicated directly with the external opening. It was much straiter than the other veins. Its coats were thickened so that it preserved its cylindrical form like, an artery. But on laying it open, we found the valves, which of course determined its character. Indeed we traced it to the skin in the ham, and at the ankle below. It was much larger below the orifice through the skin than it was above. It was probably this vessel principally which supplied the blood at the hemorrhage.

If proper remedies had been used when the hemorrhage first began, there can be little doubt that the fatal termination of it might have been prevented. A finger placed upon the opening would have been sufficient to restrain it until more effectual permanent means could be adopted. But nothing of this kind was attempted. He had not even a stocking upon the leg to obstruct the flow of blood.

A Case of Arm Presentation. By C. GOLDTHWAITE ADAMS, M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

MRS. —. a short, fleshy, woman and about 23, was taken in labour with her second child about noon, on Saturday the 18th of May, last. Her physician was with her in the course of the afternoon, who found the pains very violent, and, on examination, the membranes ruptured and a hand presenting. The uterine contractions were very powerful and pains occurred at very short intervals. He attempted the introduction of the hand for the purpose of turning, but without success. I was sent for in the evening, but owing to the distance, did not reach the place till 2 o'clock A.M.

I found the woman in very severe pain, occurring at intervals of a few minutes.

The left arm of the child, on examination, was protruded externally nearly as far as the elbow, with the palm towards the sacrum—the corresponding shoulder rested against the os pubis,

on the right side of the symphysis—the head was to the right side of the pelvis—the left side of the thorax was toward its anterior part—the sternum was toward the os externum, and the breech was high up on the left side. Eighteen or twenty ounces of blood were taken from the arm and an opiate given. After this I attempted the introduction of the hand for the purpose of turning, but the uterine contractions were so powerful and constant, that I could succeed only in reaching the abdomen and umbilical chord, which last was flaccid and without pulsation. It was now thought proper to wait, with careful attention to symptoms, for the effect of the very urgent natural efforts upon the position of the child, not without hope that some slight change would be effected which would be a step toward spontaneous expulsion and afford a guide to the efforts of art.

Injectons were directed and an opiate repeated. The pains continued with unabated severity. After two or three hours no change in the position of the child was perceptible, and the introduction of the hand met with the same resistance as at first, though the attempt had the effect of rendering the pains more constant, and, if possible, more severe. Some further time was delayed. The injections had no effect, the bladder had not been evacuated for some hours, the face was much swollen and the eyes in consequence almost closed, and the woman was hoarse with incessant cries. The urgency of the case at this period rendered it necessary that assistance should be afforded as speedily as possible with safety to the mother, the child having been dead, without doubt, some hours.

With this view, the woman being placed on her left side, I sat down by her at half past six o'clock, determined to be governed in my efforts at extraction, if practicable, by the principles of spontaneous evolution, as illustrated by Dr. Douglas, and others. I was prepared, also, to remove the arm, to give greater convenience to the forcible efforts, which, probably, it would be necessary to employ.

On making examination now, I found that the shoulder had descended in some degree, so that the hand could not be admitted as easily as before. It was obvious that the natural efforts were attempting that preliminary to spontaneous evolution, the descent of the shoulder and thorax. To accomplish this, it seemed that the trunk of the fœtus must perform a partial rotation on its longitudinal axis, in a direction from before backwards, bringing the left shoulder and ribs of the same side lower and more against the os externum. The arm was grasped and extension made upon it with firmness and caution in a direction to effect this progress, and it was found that the

thorax advanced. Extension was continued steadily with the effect of the continued progress of the thorax, till the yielding of the arm evinced that it would separate on further extension. This was continued, then, with that view, when the livid arm with the scapula, directly came away. The thorax having now descended considerably, the ribs of the left side were reached with little difficulty, and the blunt hook was fixed upon the inferior ones; but the extracting force caused laceration of the soft parts, and rendered necessary the frequent re-application of the instrument. This laceration was not guarded against, being not unfavourable, at that part, to the doubling of the child. Under these efforts, with the very constant contractions of the uterus, the inferior part of the trunk was gradually descending--the umbilical region with a portion of the chord becoming prominent externally. The pelvis was, at length perceptible. A finger was passed through a laceration caused by the hook, into its cavity, the only manner in which it could be effectually reached, and fixed in the foramen thyroideum of the left side. The hook was soon accommodated to the same purpose, and introduced in place of the finger, and the extracting force by this means continued with great advantage.

This part of the child was wedged in with a compactness that required the most advantageous efforts to overcome.

The pelvis advanced, and as it passed the brim of the maternal pelvis it obeyed the rotation before mentioned as commencing with the superior part of the trunk, and it appeared that in its continuance, the left hip would first arrive at the perineum, throwing the right hip to the right shoulder, the trunk doubling laterally. When the pelvis had descended quite low, the instrument was laid aside, and the extracting efforts continued with the hands only.

The doubled trunk was now in great proportion protruded externally, and the perineum had traversed and was traversing in an extensive sweep that surface of the child which was presented by the left side from the most prominent portion of the protruded convexity to the inferior extremities. With uniform but moderate progress all these parts were extracted, the head and remaining arm following the breech almost in the instant, and I received the child completely doubled laterally, the right shoulder to the right hip, at 8 o'clock, (Sunday morning,) the placenta soon followed. The whole time occupied in the artificial delivery was one hour and a half, during which I had much assistance from the attending physician. The child was male and of full size. The woman recovered most favourably.

The laceration of the parietes of the foetal abdomen was considerable, yet no part of its contents escaped. The place at which the arm was separated was frequently examined and found to change place, without retreating, only by getting lower than when the separation took place, and approaching in some further degree the os coccygis. Although the umbilical region was early apparent externally, yet the continuing rotation of the child accounts for its ultimate position. It may be added that the subject of this case, a woman of rigid fibre, informed me that in her first labour she suffered extremely, and that an experienced accoucheur who was with her, pronounced her case, (in which the presentation was natural) the most laborious he had ever attended.

Dr. Douglas has remarked, 'In all the cases related by various practitioners on the subject of the evolution, it is acknowledged, that shortly before its occurrence, the shoulder of the child had been forced very low into the *pelvis*; and that the thorax of the child had occupied so much of its cavity as to preclude the practicability of the hand of the accoucheur being passed up into the *uterus* for the purpose of turning, &c.' This situation of these parts of the child being common to the various cases of the evolution, would seem absolutely necessary to the subsequent steps of the process. This consideration induced me, in the urgency, of this case, to extend upon the arm, the shoulder and thorax not yet having arrived at the lowest point which the position of the head permits, and the process of spontaneous evolution renders necessary that they should reach. That which I would term the *preliminary descent of the shoulder and thorax* was thus effected in a very material degree, though the separation of the arm took place, in the inelastic and flaccid state of parts in the dead child, before it was fully accomplished. The same object might be assisted by an instrument fixed when practicable upon a superior rib.

Dr. Douglas has entered his protest against fixing the instrument upon any of the superior ribs, but in doing this, he obviously supposes the preliminary descent of the shoulder already to exist; in which case extension upon the arm, or pulling upon a superior rib to the same effect, would be worse than useless.

The circumstances of this case induced a resort to artificial means with a view to the process denominated 'spontaneous evolution,' at an earlier period of the progress of the child, than has perhaps in any instance hitherto, been successfully practised. Further facts will throw additional light upon the circumstances which may justify this early interference of art to

produce the evolution, In completing the process, closely imitating the 'unaided evolution,' the peculiarities of the individual case will influence the operator; as has been shown by Dr. Channing in a very lucid report of a case of cross-birth in a former number of this Journal.

Keene, N. H. August, 1822.

Operations for Cataract. By SAMUEL W. WYMAN, M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

[CONCLUDED.]

CASE III.

D. C. of Ipswich, a black woman, about 54 years of age, had been blind with a cataract in her right eye, about seven or eight years, the crystalline in the other eye did not begin to become opaque, until a few months before the operation on the right; when the opacity had increased so as to render the eye wholly useless. The lens in the right eye was of a uniformly white and pearl-like appearance, while that in the left was of a dusky white interspersed with radii, strikingly resembling the incipient ossification of the bones of the cranium. It was judged quite probable that all parts of the eyes except the lens, were in a healthy state, for, in a moderate light, in a dilated state of the pupils, some objects were indistinctly visible. The patient being plethoric, (to make the immediate consequences of the operation more tolerable, and to have a beneficial influence on the issue) fifteen or eighteen ounces of blood were taken from the arm the day but one before the operation.

Aug. 5th, 1820, the right eye was operated upon. Upon introducing the needle the lens was found quite hard, it was with difficulty dislodged and depressed in the posterior chamber of the eye: the capsule was extensively ruptured, and a white cloud immediately diffused itself through the aqueous humour. The pain soon after the operation but slight, began to increase in eight or ten hours, and continued, at intervals, somewhat violent during the following day.

August 9th. The pain had subsided in a great measure, the eye was opened for a moment, in a very moderate light, objects were perceptible, but of a bluish-white appearance. On the succeeding day; this appearance had worn off in a great measure, and the surrounding objects were very plain and distinct.

Aug. 12th. She is able to bear a moderate light without in-

convenience; there is no appearance of inflammation: the eye has been perfectly easy, the last 48 hours: no part of the opaque lens is perceptible with what light it is prudent to use.

Aug. 13th. On admission of a pretty strong light the edge of the opaque crystalline can be perceived at the internal angle of the eye, but not in a situation to obstruct any of the rays of light: the clouded state of the aqueous humour has wholly disappeared.

Aug. 17th. The eye bears a strong light very well the lens remains in the same situation, but seems to have a slight motion during the quick movements of the eye.

Aug. 19th. The operation was performed on the left eye. On the introduction of the instrument, the crystalline was found to be quite soft between the caseous and flocculent. The needle passing very readily through it in all directions, it would have been impossible to have depressed any portion of it. After breaking it up as much as possible and rupturing the capsule, about a quarter of the lens was pushed into the anterior chamber, which with some of the flocculi very nearly filled it. It was quite small. The time necessary for the division of the lens, and pushing different portions of it into the anterior chamber was considerably longer than that for the depression. During the latter part of the operation, it was impossible to discern the needle, owing to the abundance of flocculi diffusing themselves through the aqueous humour especially about the pupil. The pain was considerable during the operation and immediately after, and unabated the remainder of the day; for the three or four first days, considerably acute; not very troublesome after the fifth day, except at intervals.

Aug. 24th. The eye was opened for the first time; the conjunctiva considerably inflamed and swollen,—eye extremely tender,—unable to discern any object.

Aug. 29th. I was able to examine the eye tolerably well. The portion of opaque crystalline in the inferior part of the anterior chamber has, from some cause, changed its situation to the superior part, and decreased fully a third. The loose flakes are entirely absorbed, the more solid opaque parts of the lens are easily distinguished: the area of the pupil appears filled with them.

Sept. 8th. The fragments of the lens that have hitherto obscured the margin of the iris, are absorbed; it can be seen free from all obstruction, a little obliquely. The residue of the largest piece is opposite the pupil, and apparently prevented from falling to the bottom of the anterior chamber by the fragments which project through the pupil: the anterior surface of this piece is in close contact with the inside of the cornea.

Sept. 20th. The anterior chamber is perfectly free from opaque particles, the parts of the lens, protruded into it, being absorbed. A considerable part of the crystalline capsule, exceedingly thin, hangs over the lower margin of the iris, from the posterior to the anterior chamber. The fragments of the crystalline remain in the area of the pupil sufficient in quantity to hinder perception of external objects: Here is an instance of the vast difference in the power of absorption, between the anterior and posterior chambers of the eye, as already sufficiently noticed by authors.

Sept. 29th. The lens is so far absorbed, that window-sashes and objects of that description, are discernible with this eye.

Wherever the aqueous humour has had free access to the pieces of the opaque crystalline, absorption has gone on rapidly, otherwise slowly, for instance, the anterior face of the piece that was held against the inside of the cornea, this by the fragments which projected through the pupil, preserved its form, until by absorption of those in the neighbourhood of the pupil, it lost its support, and was precipitated to the bottom of the anterior chamber where it was absorbed as rapidly as the others.

Upon examination in October, a small part of the capsule was still discernible at the internal angle of the eye, just within the pupil. The sensibility of the retina of this eye appears to be healthy as the others. She can discern quite small objects by help of glasses.

CASE IV.

The crystalline lens in the left eye of Mrs. G. of Manchester began to grow opaque about ten or twelve months before the following operation, and had increased two months before, so as to make the eye of no use. At my first examination about a month before I operated, in a moderate light, the opacity was not easily distinguished, but, in a good light, very evident, plainly referable to the crystalline lens: The week preceding the operation, the opacity had advanced so as to be plainly perceptible in any moderate light. The eye had a perfectly healthy appearance, except a sensible divergency from the axis of vision, acquired since it became useless.

October 7th, 1820. The eye was operated upon. The cataract proved to be of the soft kind; the needle passed through it very easily. After breaking it sufficiently, the crystalline capsule was ruptured, immediately the lighter parts of the lens passed into the anterior chamber. The pain during the operation was quite moderate, but came on pretty severely three or four hours after, lasted about three hours, when it wholly subsided. On

the third day, the eye could bear light sufficient to examine the crystalline. Its more solid parts remain in the area of the pupil, and prevent perception of external objects, the lighter parts which had entered the anterior chamber, have disappeared. There was no perceptible alteration in the appearance of the opaque crystalline for the first four or five weeks, except that as its absorption advanced, parts of it projected into the anterior chamber, and obscured the margin of the iris, which at first view, appeared wanting in that part.

During the four or five weeks that the lens was in this situation, and before absorption had advanced far, the eye remained somewhat irritable not painful. At about the end of the sixth week, the lens, appeared quite thin in different parts, but there was no improvement in vision.

Toward the latter part of December the improvement in vision was very apparent, in a dilated state of the pupil she could distinguish objects quite plainly, the centre, and inferior part of the lens, were considerably wasted. From this time, improvement in vision was daily advancing. Other apertures soon became perceptible, and increased in size, and February 8th, she was able to make a trial of the three inch glasses, with which, at the distance of six or eight inches, she could read quite well.

In March, the eye was again examined; nothing remained of the lens, but some shreds of the capsule still at the superior part of the pupil.

Since the eye has become useful, the divergency from the axis of vision has almost disappeared; the distance of objects, which, with but one eye it was difficult to determine, can, by help of this, be well ascertained. In May, in a strong light, the shreds of the capsule were seen considerably wasted, became exceedingly thin, but at the margin of the pupil, so as not to obstruct any rays of light.

CASE V.

C. W. of Hamilton, about 13 years of age had an opacity of the crystalline of the left eye, occasioned by a sharp point of wood penetrating the external angle, about the junction of the cornea and sclerotica. He was not brought to me until two or three months after the accident when all inflammation had subsided, the iris was drawn to the part penetrated and had formed a connexion with the cicatrix of the cornea, there was a small staphylomatous tumour on the adjoining part of the sclerotica. In consequence of the situation of the iris, the pupil remained oblong. and was similar to that which takes place from protrusion of that membrane, through an orifice in the cornea, oc-

casioned by ulceration or slough. The opaque lens, in its natural situation, wholly obstructed the rays of light, except at the external angle, where, on account of the oblong form of the pupil, some oblique rays could penetrate, but not so as to produce any vision. The part of the iris, at the internal angle of the eye, which remained free, retained its power of contraction unimpaired. There was a considerable divergency in the eye from the proper axis of vision.

The symptoms being favourable for the success of an operation, I performed it June 15th, 1821. Having introduced the needle posteriorly to the iris, in the usual manner, I lacerated the capsule of the lens, upon which, abundance of flocculi entered the anterior chamber, and exposed the nucleus of the lens, easily distinguished by its pearly whiteness and firmer consistency. After having protruded the nucleus (which was not of such a size and hardness to require division) into the anterior chamber, and as many of the lighter parts as I could practicably, I withdrew the instrument.

On the third day after the light could be admitted of sufficient strength, to examine the eye. The flocculi in the anterior chamber were principally absorbed; shreds of the opaque capsule extended from the posterior to the anterior chamber, through the pupil. There has been a slight headache, no severe pain in the eye, the inflammation is slight and tenderness moderate.

June 24th. A considerable portion of the opaque lens has fallen to the bottom of the anterior chamber, which before had projected into it through the pupil. The eye is remarkably free from any uneasiness, the unconfined edge of the iris, retains its sensibility, to different degrees of light, perfectly healthy and natural.

June 28th. The fragments of the lens, which still retain their situation in the pupil, appear like a heterogeneous mass, the more opaque parts, that formed the interior of the lens, being mixed with those more transparent and of looser texture.

I did not see him again till August, when the lens had almost disappeared: some of the more solid parts remained at the external angle of the eye, behind the iris, connected with shreds of the capsule, which extended in some degree, across the pupil, and obstructed some rays of light; with the assistance of the three inch glasses, he could see letters of a large size those of the common size, he could not distinguish very readily.

In September none of the lens remained, the remnant of the capsule was considerably shrunk and wasted. Vision was rather better in August, and gradually improving. The divergency

from the axis of vision was in some degree diminished. The sensibility to light, which, from the time of the accident, had been too great, seemed slowly returning to its natural state.

The treatment of case 3d consisted, together with the antiphlogistic regimen, principally of cathartics and antimonials, which were particularly required after the operation on the left eye, on account of the obvious tendency to destructive inflammation. After this was pretty much subdued, antispasmodics were occasionally administered. The inflammatory symptoms in cases 4th and 5th were so slight, as to call for nothing more than, now and then, some mild laxative.

Newburyport.

Case of tying the Carotid Artery, and the Extraction of a Tumour from the Neck. By R. D. MUSSEY, M.D. Professor in Dartmouth College.

[Communicated for the New England Journal of Medicine and Surgery.]

ON the 22d of February, 1822, Dr. G. Heaton, aged 51, a physician from Vermont, consulted me respecting a tumour on the left side of his neck. He first noticed it early in December, 1821, in the form of a hard lump, a little below the angle of the jaw. In less than three months, it had acquired nearly the size of one's fist.

Its surface was irregular, and its hardness not uniform. A protuberant part at its exterior aspect, was comparatively soft and elastic, while its body was hard. The skin did not adhere, but its colour was slightly changed, from a trifling enlargement of its vessels over the most prominent part. On relaxing the platysma myoides, an obscure motion could be given to the tumour, but no position of the head or neck could disengage from it, the sterno-cleido-mastoid muscle. This muscle was distinct, from the clavicle to the lower part of the tumour; but at this point it seemed to terminate abruptly, and to be entirely identified with the diseased mass. Occasionally there was darting pain in or about the tumour, and deglutition was a little impeded by its encroachment upon the larynx and œsophagus.

I consulted my colleagues, Dr. Oliver and Dr. Dana. Our united opinion was, that the tumour tended rapidly to malignant ulceration, or to fungus with hemorrhage, and that the only remedy, the knife, could afford but a very uncertain prospect of a radical cure. We could not urge the operation, although we believed it would probably prolong life, which, otherwise, must,

in a few months, fall a sacrifice to the disease. With these prospects before him, the patient, on being assured that he need not expect to die in the operation, determined to submit to the knife.

The nature of the tumour, so far as it could be inferred from its rapid growth, from the touch, and from the state of the mastoid muscle imbedded and lost in its substance, and the uncertainty whether the morbid mass did not extend to the vertebrae, involving the great cervical vessels and nerves, conspired to render the contemplated operation sufficiently formidable. The necessity of dissecting out all the diseased substance, and the difficulty, if not impossibility, of accomplishing this without previously stopping the circulation in the vessels by which it was fed, induced the resolution to tie the carotid artery as a preparatory step to the removal of the tumour. This resolution was fortified by the consideration that the records of surgery had not yet decided what influence, if any, this method of cutting off the supply of blood, can exert towards repressing the growth or preventing the reproduction of morbid parts. The case related by Mr. Goodlad in the 7th vol. of the *Medico-Chirurgical Transactions* seemed to be in favour of the practice. As it was inconvenient to attend immediately to the operation, the patient was directed to take less animal food than usual, and to avoid distilled and fermented liquors.

On the 28th of February, assisted by Dr. Oliver and Dr. Dana, I performed the operation. In the opinion of all present who had seen the tumour six days before, its volume had decidedly increased within that period. From the tip of the ear downward, it measured accurately, four inches, its lateral diameter was three and a half inches, and the distance of its most prominent exterior part, or apex, from the outer side of the larynx as the line of its base, was more than two and a half inches. How much deeper into the neck it extended than this line of admeasurement, could not be determined.

OPERATION.

The patient was laid upon his right side with the head drawn a little backward. With this position of the neck, which was unusually long, there was sufficient space below the tumour to cut down upon the carotid. An incision, about two inches in length, and reaching to within half an inch of the clavicle, was made upon the inner border of the mastoid muscle. The artery was sought for, and its sheath exposed just below where it is crossed by the omo-hyoideus. On crowding outwards the mastoid muscle and the internal jugular to bring the carotid more

fully to view, the eighth nerve was dimly seen through the cellular tissue in which it lay imbedded. Very gentle pressure upon this nerve, with the hilt of the scalpel gave acute pain.

The sheath was carefully dissected from the anterior part of the artery to the extent of three quarters of an inch; and at this stage of the operation we had an opportunity of witnessing a fine demonstration of Parry's doctrine of the pulse. There was no hemorrhage, and a strong sunshine fell directly into the wound. At the bottom of this, lay the naked artery, pulseless as a metallic cylinder, and exhibiting its vasa vasorum, in the form of a delicate scarlet network, spread over its surface. On applying the finger, or the hilt of the knife to the vessel, so as to lessen its caliber, a bounding pulse was both felt and seen. We could not help pausing a moment to contemplate this interesting exhibition.

A ligature of waxed thread, (as we had been unable to procure suitable ligatures of animal substance) was passed between the artery and its sheath, by means of a blunt silver needle, of small curvature, with a moveable hilt. On tying the ligature upon the artery, the patient felt none of the pain in the corresponding side of the head and face, mentioned by some operators. The wound was then closed by a strip of adhesive plaster. In order to expose the tumour, two incisions were made; one from the tip of the ear, to a little distance below the tumour along its anterior part; the other at right angles with the first, passing over the apex of the swelling towards the back of the neck. On dissecting back the integuments, traces of muscular fibre, the remains of the mastoid muscle were visible. Most of the muscle was lost in the diseased mass, and the few fibres which remained, were inseparable from it. The muscle was therefore divided below the tumour, where it appeared of the natural firmness and colour; that part only of the muscle which was below this point of division being allowed to remain.

The tumour had no capsule; it had shot irregularly into the surrounding cellular substance, and had seemed to convert into its own nature, the glandular and muscular textures which lay in its way, or rather, with which it came in more immediate and firm contact. When the main body of it was removed, and the wound sponged clean, an opportunity was afforded of discovering any lobuli of the diseased mass which might remain. Two or three of these were detected and removed; one in particular, which projected a little way between the carotid and the internal jugular, was dissected away with care. A great part of the parotid and submaxillary glands was dissected out in consequence of their being firmly interwoven with the tumour, and

seeming to have derived from it a morbid character, as evinced by a change in colour and hardness for some depth into their substance.

The removal of this tumour exposed to view the internal jugular, the common carotid and its fork lying collapsed, and the open mouths of the divided branches. Most of the digastric muscle was also laid bare, part of the splenius, and several of the small muscles connected with the larynx, the styloid process and the os hyoides, the extremity of which last, with its appropriate muscles attached, projected some way into the cavity. With these parts in view, it was interesting to witness, in the process of deglutition, the motions of the larynx and the os hyoides, and the actions of the muscles connected with them.

In dissecting back the integuments from the angle and body of the lower jaw upon which parts the tumour had a little encroached, an inferior branch of the facial nerve was divided. This gave a permanent twist to the mouth; the under lip being drawn towards the opposite side, while the upper lip and angle of the mouth remained as before. Two nerves emerged from the posterior part of the tumour some way above its middle, which I took to be the divisions of the accessory nerve, although they were unusually large. When these were cut through, the patient started violently; not, as he afterwards assured me, from the pain it occasioned, but from the suddenness of the sensation of the parts *giving way*, as he expressed it. A copious gush of black blood frequently interrupted the progress of the dissection, and in one instance, viz., when dissecting through the parotid gland, we noticed a slow trickling of *florid* blood. The patient probably lost, in all, a pint of blood, and possibly more than that quantity.

The dressings consisted of two or three stitches, some strips of adhesive plaster, a compress and roller. The operation of cutting down upon the carotid and tying it, occupied eighteen or twenty minutes, that of dissecting out the tumour, an hour and a half.

An hour and a half after the operation, the patient took 25 drops of the tincture of opium, and got considerable sleep during the night. The next day he was a little restless, with the pulse at 92. He took an ounce of the sulphate of magnesia, which operated moderately, as a cathartic. After this, the pulse did not rise above 84 in a minute, and the patient had but little pain in the wound, and rested well, though for some days, he complained of soreness, and difficulty in swallowing.

His food, for the first week, was milk with farinaceous preparations. The wound healed chiefly by adhesion, the ligature

upon the carotid came away on the 28th day, and the patient returned to his family immediately after. Previously to his returning, I advised him to take, daily, for some weeks, 10 to 15 grains of the phosphate of iron, with some rhubarb or soap pill, if necessary, to keep the bowels open; to avoid distilled and fermented liquors, and exposure to wet and cold. In June, I was informed that he was then in good health, and that there was no symptom of a reappearance of the disease.

The tumour, when cut through, presented appearances which served to confirm the opinion previously entertained of its malignant character. That portion of it which was the most elastic or puffy before extraction, had the homogeneous texture, and nearly the consistence, of the medullary part of the brain. Near the base of the tumour, the texture was much more firm, with numerous fibres or bands running in various directions; and in one part, where the texture was softer, a small insulated cavity was cut into, which contained a dark bloody serum.

On reflecting upon the foregoing case, I cannot help considering the tying of the carotid, as an essential part of the operation. From the first, I have had but little hope of a permanent cure; but if, without an entire removal of all the morbid mass, a reappearance of the disease was to be expected, I am confident that no part of the operation was more necessary than the tying of that large vessel. And if it be admitted, that a radical cure of a malignant tumour can ever be effected by the knife, while any portion of it is left behind, the inference seems natural, that such portion, being possessed of a comparatively low degree of vitality, will be more sure to die, from being deprived of most of its accustomed nourishment.*

Dartmouth College, Hanover, N. H., August 21, 1822.

* Although arteries which run in a straight course, do not pulsate when dissected up from their sheaths, or in other words, when free from compression, it is not precisely so with those which pursue the curvilinear direction. In recently dissecting a tumour from the neck, in which the upper part of the right half of the thyroid gland was implicated, I laid bare and tied the superior thyroid artery, previously to dividing it. As it lay nearly in a semicircular form, I dissected its sheath from it for the space of three fourths of an inch, chiefly with reference to the pulse. At each systole of the heart, a slight motion was communicated to the vessel, like what might be expected from the blood impelled in a right line, but we could not satisfy ourselves that its diameter was augmented.

Caries of the 5th and 6th ribs, disorganization of the right lobe of the lungs, with description of an operation. By Dr. Milton Antony, of Augusta, Georgia.

[Communicated for the New England Journal of Medicine and Surgery.
By GEORGE PARKMAN, M.D.]

ELMORE ALLEN, æt. 17, between two and three years ago, fell from a horse, the sixth right rib was believed to be broke, the pain did not continue severe a long time, in a few days, little attention was paid to the case, the local irritation and ecchymosis measurably abated. For two years he could often walk and ride without serious inconvenience, several times irritation and tumefaction in the injured part, from over-exertion or accident, made him keep abed several days, sometimes weeks. Once, inflammation was such, a blister was drawn on the part. Six months ago, the part became distressful; soon after, pungent, extremely severe pain was fixed at the vertebræ and sternal articulations of the rib, hectic ensued; pain in the wound ceased, uneasy sense of weight and distention followed.

March 3d, 1821. I made my first visit to him. He was in good spirits, considerably emaciated, had not rested at night for some time, without laudanum; showed effort, and dilatation of the nostrils at each inspiration; no more respiration appeared on the left side than seemed to result from inflation of the left lobe; the pulse was 120 in a minute, laborious like a sluggish undulation, full, strong, distinct to the eye in three left intercostal spaces giving to the touch a sensation like that given when water is in the pericardium, or when it adheres extensively to the heart. The tumour was from the sternum to the anterior edge of the latissimus dorsi, two inches in width, one inch in elevation at the highest part, which was several inches immediately over the injured part of the rib; the skin over the tumour seemed unchanged except by slight enlargement of superficial vessels.

Dr. Pugely, who is an aged, experienced, accurate surgeon and anatomist, and I, thought an abscess pressed on the right lobe.

4 p. m. Allen was placed supine on a suitable table, his right arm extended by the side of the head, which, the left arm and lower limbs were held. I made a free incision from the sternum, through the integuments over the space between the fifth and sixth ribs, to the lower end of the tumour. The fleshy digital

origin of the serratus magnus from the sixth rib, the interlocking fibres of the origin of the obliquus externus abdominis, the costal origin of the pectoralis major, the intercostal muscles and their vessels had been removed, by the resources of the system. Copious grume and old red coagula were discharged with condensed coagula of fragments of membrane, like lymph. The sixth rib was carious and brownish from its sternal articulation to the other end of the wound, where it seemed healthy and attached to the surrounding parts; its anterior half was easily removed in fragments by the fingers; the sternum seemed healthy, two inches of the lower edge of the fifth rib was carious and brownish; a section of it, cleared of surrounding parts each way to where healthy adhesion existed, was removed by a cutting forceps, the intercostal artery was cut and tied. Much of the same sort of matter, removed from within the ribs, seemed more homogeneous, more broken, very dark, greyish, occasionally tinged with crimson. I passed my first and second fingers three and a half inches in every direction without more resistance than from the matter, except occasionally from fragments of bronchial tubes. Dr. Pugely made full, satisfactory examination to the same effect; no motion of respiration was perceptible to the fingers. - I removed all the disorganized parenchyma of the lungs within the reach of my fingers, between one and two pounds, from between and around the branches of several bronchial tubes. I introduced large pledgets between the cut edges retracted, covered the wound with plaster, applied a roller to prevent motion of the ribs. During the operation, Allen became weak, faint, free from pain except smarting of the edges; slept badly at night, till he took an anodyne; next day, was very weak, breathed laboriously; his room was crowded at evening, he became very depressed, breathed harder, was thought to be dying; the room was ventilated, he rested well without an anodyne: second and third day, rested well, had little fever, bark was advised, 4th day I saw him, he was cheerful, thought he should recover, pulse 96 at the exacerbation, natural in force and fulness, somewhat convulsive. He desired a little weak wine and water occasionally, was sickened a little by scent of the wound in dressing, his right limbs have been a little cramped since the operation. The edges seemed healthy, but had not been kept sufficiently apart; there was but little suppuration. He was easily raised, by napkins, for application of a many-tailed bandage, lint was put two inches within the ribs. His distance from me was such I could not see him often. I urged that the wound should be kept open by as large pledgets as could be in-

troduced.—9th day, I was told he was considerably better. the discharge from the thorax much more free, there was motion of respiration in the side,—11th day, I was informed. by a letter, that the wound is closed by granulation in the middle, open at each end, his pulse good, appetite pretty good, he has a natural stool daily. and slight fever,—12th day, he was raised out of bed and put erect, soon became giddy, was put to bed; this was done without pain,—13th day, recovery is beyond doubt, in the mind of himself and those who saw him, he is very cheerful. Tents penetrated two inches, the bottom of the cavities seems of flesh-colour, filling with healthy granulations, discharging pus like cream; the motion of the side in respiration increased. In a letter to his friends I again urged the importance of absolute rest,—30th day, he walks the house, wishes to walk over the farm,—38th day, a little excrescence appeared at the under side of the anterior orifice kept open by a tent of twisted cotton one and a quarter inch long,—40th day, I found him free from pain and uneasiness; *he has had no cough* at any period of the case; a livid, soft, membranous, conical substance, protruded from the wound, filled an opening it had made of seven or eight lines in width, through the granulation at the side of the lint. On removal of this substance, a substance escaped like that removed in the last part of the first operation. I could introduce my finger two and a half inches in, down, and back, not up; he was sensible of my touch in every direction. I removed half a pound of disorganized substance of the lungs, dressed the wound with as large a tent as it would receive, he remains easy,—64th day I visited him; he has the full habit of his ordinary health, can and wishes to walk half a mile off, is not allowed to exceed the yard, can sit and walk about the yard and house twelve hours of twenty-four with much pleasure; the wound seems as on the 50th day, presents livid, insensible funguses; I removed them with scissars and caustic, and, from the thorax coagulated blood, some of it like the buff of inflammation. I dressed the wound as before. The inferior end of the remaining portion of lungs seems adhered or healed so its respiration is unaffected.—The patient grew fleshy and strong; went to a Methodists camp-meeting was afterwards seized with measles and died. See too Richerand, nosograph. chirurg. 5 ed. IV, 398. Journ. of sciences and arts No XI. 50; Lon. Med. Rep. x. 235; Journ. complément. du dic. des scien. med. vii. 314.

REVIEW.

General Anatomy applied to Physiology and Medicine. By XAVIER BICHAT, *Physician to the Great Hospital of Humanity at Paris, and Professor of Anatomy and Physiology.* Translated from the French. By GEORGE HAYWARD, M.D. Fellow of the American Academy of Arts and Sciences, and of the Massachusetts Medical Society. In three volumes. pp. 1350. Boston: Richardson & Lord, 1822.

IT is not to be expected that we should be able, in the compass of a single article, or indeed in a succession of articles, to present any thing like an analysis of the work of Bichat, which is now, for the first time, presented to the public in an English translation. All that we can do, is to offer such a sketch of its plan, such specimens of its contents, and such views of its applicability to our improvement in medical science, as may enable the members of the profession to form a proper estimate of its value, and induce them carefully and diligently to study it.

The living system is capable of being subjected to analysis in a variety of ways and for different objects; and affords a corresponding variety of results, all of which have their distinct and appropriate uses and bearings.

First comes mere chemical analysis, which regards it simply as a mass of common matter, employs only the usual re-agents in its decomposition, and resolves it into its ultimate elements of oxygen, hydrogen, azote, &c. Next follows a chemical analysis conducted upon different principles, and by different agents; regarding the system as possessed of life, and having a composition totally unlike that of ordinary matter; this is animal chemistry; it results in the separation of the organs into their proximate, or if we may so speak, their vital elements, albumen, fibrine, gelatine, &c., and treats of them as the materials of organization, though not in their organized form. Then succeeds a species of analysis which treats of the organized structure of the system, but not as made up into distinct organs. It decomposes it into its organized elements, artery, vein, nerve, mucous membrane,

&c.; this is General Anatomy. And, finally, we have Descriptive or common Anatomy, which considers the body as an assemblage of organs, made up of these organized elements, and possessing different powers, exercising different functions, according to the number, nature, and combination of the elements of which they are composed.

‘All animals,’ says Bichat, ‘are an assemblage of different organs, which, executing each a function, concur in their own manner, to the preservation of the whole. It is several machines in a general one, that constitutes the individual. Now these separate machines are themselves formed by many textures of a very different nature, and which really compose the elements of these organs. Chemistry has its simple bodies, which form, by the combinations of which they are susceptible, the compound bodies; such are caloric, light, hydrogen, oxygen, carbon, azote, phosphorus, &c. In the same way, anatomy has its simple textures, which, by their combinations four with four, six with six, eight with eight, &c. make the organs.’ Vol. I. *Introd.* p. 44.

This illustration is not very exact. The organized textures which form the subjects of general anatomy, and are here compared to the chemical elements, have in fact but little analogy with these elements. *They*, the chemical elements, lose their peculiar qualities and character by the combinations into which they enter, the nature of the element is merged in that of the compound. It is not so with the textures. There is in their union with one another, no analogy to a chemical union: it is more like what chemists would call mixture, or juxta-position. There is no merging of the character of the texture in that of the organ. They mutually affect and operate, but they do not neutralize. They concur in the promotion of common objects, but they do not at all lose their own individual peculiarities, which are as marked and distinct as if they existed in a separate state. They are more like what the simple stones are in the structure of the more compounded—like mica, feldspar and quartz, in the composition of granite. Thus the serous, mucous and muscular textures in the stomach; the muscular, fibrous, osseous, &c. in the organs of loco-motion retain, each of them, their appropriate and distinctive properties, though combined together in the formation of these organs for peculiar purposes, none of which could be answered by either one alone.

The number of the different textures, according to Bichat, is twenty-one. 1. the cellular; 2. the nervous of animal life; 3. the nervous of organic life; 4. the arterial; 5. the venous; 6. the texture of the exhalants; 7. that of the absorbents and their

glands; 8. the osseous; 9. the medullary; 10. the cartilaginous; 11. the fibrous; 12. the fibro-cartilaginous; 13. the muscular of animal life; 14. the muscular of organic life; 15. the mucous; 16. the serous; 17. the synovial; 18. the glandular; 19. the dermoid; 20. the epidermoid; 21. the pilous.* These are the organized elements of our bodies, and form the subjects of the work before us.*

They are divided into two great divisions, the first containing the systems common to all the apparatus, viz.: the cellular, nervous, arterial, venous, exhalant and absorbent systems; the second, the systems peculiar to certain apparatus, including the remaining fourteen, viz.: the osseous, medullary, cartilaginous, fibrous, fibro cartilaginous, muscular of animal and of organic life, mucous, serous, synovial, glandular, dermoid, epidermoid, and pilous.

* Modifications of this arrangement of the textures have been proposed by several other individuals. Particularly Messrs. Dupuytren and Richerand have attempted many corrections of the classification of Bichat, and submitted another in the place of it, which divides the textures into eleven classes:

1 the cellular	}	systems	{	arterial
2 vascular				venous
3 nervous				lymphatic
4 osseous				cerebral
5 fibrous				ganglioid
6 muscular			{	fibrous
7 erectile				fibro-cartilaginous
8 mucous				dermoid
9 serous				voluntary
10 horny or epidermoid			{	involuntary
11 parenchymatous				
			{	pilous
				epidermoid
				glandular

This arrangement differs in fact very little from that of Bichat, except in making some of his textures subordinate, instead of primary: as for instance throwing the arterial, venous, exhalant and absorbent together under the vascular; the fibrous, fibro-cartilaginous and dermoid together under the fibrous; discarding the medullary as a distinct system, and sinking, as we suppose, the synovial in the serous. We do not perceive any very considerable advantages which this system has over that of Bichat; we are indeed rather inclined to retain his, more particularly as his work is founded upon it, and as it is, after all, a mere matter of artificial classification, the ultimate division of textures being nearly the same.

The first class includes those which have no adaptation to any particular part—they are the textures whose office it is to convey nourishment to the organs, to appropriate it when it has been carried to them, and to maintain their connexion with other parts of the system; textures in short, some of which at least, are necessary to the very existence of any organ as belonging to a living system, without any view to its particular function. It is not necessary that every organ should be furnished with all of them, but some of them are essential.

‘In general it appears that the exhalant and absorbent systems are the most universally diffused. Nutrition supposes this’—‘As every organ is nourished, and as the mechanism of nutrition is uniform, it follows that these two systems belong to all the organs. After these, the cellular system is the most generally found. Where there are no blood vessels, it is sometimes met with, and it always exists where these vessels are. Next to this the arteries and veins are spread to the greatest number of parts. Oftentimes no nerve is discoverable where they penetrate, as in the aponeuroses, the fibrous membranes, &c. The nervous is of all the generative systems, that which is found by dissection in the smallest number of parts. The serous membranes, the whole fibrous system, the cartilaginous, the fibro-cartilaginous, the osseous, &c. appear to be deprived of it.’ vol. I. p. 80.

These primitive or generative systems then form the ‘nutritive parenchyma,’ the outline, the rudiment of the different organs, which is filled up by the textures or systems *peculiar to certain apparatus*. These have relation to the performance of particular functions only; they are intended for particular purposes, and are of course only found where these purposes are to be answered. The textures of the first class then, form a sort of outline or frame work of the organs, which is filled up and finished by the deposition in it of some one or more of these secondary textures, according to the function which that organ is destined to perform. Thus in a muscle with its tendon, we find in the first place all the several generative systems in the muscle, and part of them in the tendon, these being the same in structure and organization as in any other part; but besides these, there is deposited in one part of this organ the peculiar matter of the muscular texture, and in another part, the peculiar matter of the fibrous; and what seemed before a homogeneous mass is converted at once into two portions perfectly distinct in appearance and office. Suppose, instead of this, which is the natural course of things, that the material of the osseous or cartilaginous or glandular texture had been deposited; the congeries of primitive textures would have re-

remained the same, but the organs would have been a bone, a cartilage, or a gland. Thus we see in fact, that the same part which in infancy was cartilage, is in adult age, bone, merely from a difference in the nutritive matter deposited in the original parenchyma, which remains the same. This illustrates the distinctions between these two classes of textures, of which it is important to have at first clear and accurate ideas, as it is the very ground work of Bichat's theory of nutrition, of which indeed the above remarks furnish a general sketch.

The whole of the three volumes of this work, with the exception of the Introduction which contains nearly eighty pages, is devoted to the investigation of the history of the different textures beginning with those of the first class. The introduction contains many valuable observations, and is worthy of particular attention from those not familiar with the previous works of Bichat as affording in some measure a development of his peculiar physiological principles, and from all, as containing a variety of sound practical remarks upon the application of those principles and of the knowledge of the anatomy of the textures to the study of disease. To these remarks we shall have hereafter occasion to refer. We proceed at present to give some account of the plan upon which the examination of the various textures is conducted.

Each of them is considered under four different points of view. 1. As to their form. 2. Their organization. 3. Their properties. 4. Their development. At least this arrangement is followed where the nature of the texture admits of it, for it is obvious that with regard to some systems their form and organization are of a nature to elude completely our most minute investigation, and with regard to others, that there are subordinate considerations which demand a distinct examination as they do not strictly come under either of these heads.

1. The form which the particular systems take in contributing to the formation of organs is generally in some degree peculiar to themselves. Thus the cellular texture is always arranged in the same way, with cells formed by the interlacement and connexions of a peculiar membrane—the serous always exhibits the arrangement of a sac without an opening, reflected over and covering certain organs, without containing them in its cavity—the osseous and the muscular have certain definite forms in which they always appear. The textures do not differ from one another so entirely in the forms they assume as in other respects, yet that part of the work devoted to their consideration contains a great deal of valuable matter, and exhibits many original and philosophical views. And though

our author would here seem to invade the province of Descriptive Anatomy, yet he in fact contrives to convey many ideas, and communicate much information, which we do not meet with in treatises on Anatomy, and which are yet of considerable interest both physiologically and practically.

Under the second head, Bichat treats of the organization of the systems. The greater number of them according to him, are 'composed of a peculiar texture and of common parts' p. 127, vol. I. Thus the cellular system is composed in the first place of that peculiar and delicate membrane, arranged in the form of cells, which gives it its distinct character, which makes it cellular membrane; but besides this it contains also, blood vessels, exhalants, absorbents, and nerves, the other generative or primitive textures. So too the nerves, beside the peculiar medullary matter which is essential to their character, contain blood vessels, cellular membrane, exhalants and absorbents. The muscles also, in addition to the muscular fibre, exhibit the same common parts. The arrangement, connexion and distribution of all these are treated of at length under this division—and the influence exerted and changes produced in the appearance, composition, &c. of the texture, by the action of the air and moisture, by putrefaction, by heat, by dryness, by cold or boiling water, by the acids and other chemical reagents; are considered.

Attention is more particularly directed to a peculiar property of animal substances, arising 'from their texture, from the arrangement of their particles but not from the life that animates them,' 'a property of which as yet very little has been said; which chemists have proved by their experiments, and which physiologists have often confounded with irritability, but which is as distinct from it as it is from the contractility of texture; I mean the property of being hardened like horn, and contracted by the action of different agents'—'Every organized part submitted either after death or during life, to the action of fire and of certain concentrated acids, is contracted and wrinkled in different ways, and is affected almost like irritable organs when they are excited.'

In producing this *horny hardening* (*racornissement*) fire is the principal and most powerful agent—then come the concentrated acids, sulphuric, nitric and muriatic—the weaker acids—alcohol—the neutral salts—dry air, boiling water, &c. which have the same effect in different degrees—the alkalies are totally destitute of any power of this kind. These agents produce two species of horny hardening. 'The first is prompt, sudden, almost like the motion which results from the irritation of a living

muscle; the other slow gradual and even insensible. Fire and the strong acids are in a special manner the agents of the first. The action of the neutral salts, of the air, of alcohol, principally produce the second.' The two kinds differ from one another in several respects. That produced by the more violent and powerful causes, soon undergoes further changes if the operation of the cause continues, and the texture under examination is destroyed—that, on the other hand which is the result of the milder agents, is not altered by their continued operation, the texture continues unchanged and remains always firm and contracted. There is even some ground for believing that they depend upon different principles, for 'when the living solids have undergone the slow and gradual horny hardening, they are still susceptible of the other.'

The differences in regard to this property afford many marks of distinction between the different textures, and between different parts of the same texture; and these are often of more importance than would have been anticipated, by showing a real distinction to exist between parts, whose organization in other respects indicated no such distinction, and yet whose properties and functions rendered it probable that they did not belong to the same system.

The third and by far the most important division under which our author treats of the textures, is as to the properties of which they are the seat. Under this head, it will be at once imagined from the well known character of his opinions, he includes every thing which relates to the life and vital phenomena of the various textures—the part which they take in the formation of the organs, the part they contributed to the performance of the functions, the influence they exert in the processes of disease, in short their character and history as parts of the living machine, both in health and disease.

In the first place, under this head, he adverts to the physical properties of the textures, when they possess any thing peculiar in this respect, as happens with regard to the arteries, the bones, the cartilages, the fibrous membranes, &c. which exhibit various degrees and kinds of elasticity.

He speaks next of the properties of texture (*tissue*;) one of these, as has been just observed that of *hardening like horn*, he treats under the preceding division, as relating more particularly to the organization; the other two, extensibility and contractility of texture, he particularly investigates in each system and points out such of the phenomena of the functions as are to be attributed to their influence, rather than to those which he more particularly designates as vital properties. In doing this, we ap-

prehend he has sometimes a little exaggerated the influence of the properties of texture, and ascribed to them effects to which they are not adequate. Thus in speaking of the existence of the contractility of texture in the osseous system, he thinks it owing to the exercise of this property, that the alveoli contract after the extraction of a tooth, and that other phenomena of the same character are produced, phenomena which have been usually, and as we conceive, very justly, attributed to the operation of the absorbent vessels. We do not see, why the growth of bones should not be said to result from their extensibility of texture, as much as this sort of diminution in size from their contractility.

The vital properties are next described. The respective importance of the different textures in contributing to the performance of functions, and their relative degree of vitality are determined by the number, kind and degree of the vital properties which are distributed to them. Thus bone, fibrous membrane, ligament and cartilage possess but a few of these properties—only those which are necessary to nutrition and growth—their life is of the same grade with that of vegetables, and they are intended to perform only a passive part in the economy—to be merely the instruments, the subordinate agents, operated upon by organs whose degree of vitality is higher. On the other hand, the muscular, the dermoid, the nervous, the cellular systems, endowed with a greater number and a more elevated grade of the properties of life, manifest their influence in the active character of the functions to whose performance they contribute. Every texture, by the combination of the properties of which it is the seat, as well as by its structure and organization, is distinguished from all others—it has a peculiar life, a peculiar character of its own. The textures, when made up into organs, contribute, each in their own way, to the life and character of the organ; and this will, therefore, be determined by the nature of the particular textures of which it is composed, and express the compounded character of those textures. Its function will be such as could not be at all performed by any of them singly, but is yet the harmonious result of their combined operation. Thus to take a striking example, the alimentary canal is composed of three peculiar textures, beside the common or generative systems, viz.: the mucous, muscular of organic life, and serous. The purposes to be answered by the successive organs constituting this canal, are the conversion of a portion of the food into a matter fit to be absorbed into the vessels to form blood, and the excretion of the remainder, which cannot be so converted. To effect this, there is, in the first place, a texture which, by some

unknown action upon the aliment, or by the operation of certain fluids, which it provides, effects a series of alterations in it, as it is successively applied to its different parts; there is, in the second place, a texture exterior to this, the muscular, whose office is to move the alimentary mass onward, from one part to another, and finally, expel its residue from the body; lastly, there is a texture whose object seems to be to afford an effectual covering to the organs which are formed by the union of the other two, to separate them from one another, to insulate them, and by the smooth surface which it presents, always bedewed by its exhalations, to facilitate the motions which are rendered necessary by the functions of the organs. So that the mucous membrane is the soul of these functions; the muscular coat being in a measure subservient to its operations, and the serous, in part, at least, subservient to the motions of them both, by supplying one of the conditions of motion, a smooth unctuous surface. Thus it performs to the moving organs of the organic life, a similar office to that which the synovial membranes do to those of the animal life, and this is a feature of resemblance between these systems in general, viz. : that the serous membranes afford to all the sensible motions of the organs of organic life, the same facilities that the synovial do to those of the animal. Thus the heart, the lungs, the bowels, the testicle, have all sensible motions, which are effected by the sliding of serous surfaces upon one another—whilst those of the tendons and the joints are accomplished by the sliding of synovial surfaces.

But besides the number of their vital properties, the textures are also distinguished by the difference of character they exhibit. It is, in fact, in this respect, that the principal difference exists, by which they are enabled to contribute to the formation of various organs, and the performance of various functions. Two textures may have numerically the same properties, and yet the character they exhibit be entirely diverse. Nay, even different parts of the same texture frequently present striking modifications of their vital properties. How unlike, for instance, are the sensibilities of the mucous membrane of the stomach, and those of the bladder.

‘There is but little difference arising from the number of vital properties they have in common; when these properties exist in many, they take in each a peculiar and distinctive character. This character is chronic, if I may so express myself, in the bones, the cartilages, the tendons, &c.; it is acute in the muscles, the skin, the glands, &c.

‘Independently of this general difference, each texture has a particular kind of force, of sensibility, &c. Upon this principle rests

the whole theory of secretion, of exhalation, of absorption, and of nutrition. The blood is a common reservoir, from which each texture chooses, that which is adapted to its sensibility, to appropriate and keep it, or afterwards reject it.

‘Much has been said since the time of Bordeu, of the peculiar life of each organ, which is nothing else than that particular character which distinguishes the combination of the vital properties of one organ, from those of another. Before these properties had been analyzed with exactness and precision, it was clearly impossible to form a correct idea of this peculiar life. From the account I have just given of it, it is evident that the greatest part of the organs being composed of very different simple textures, the idea of a peculiar life can only apply to these simple textures, and not to the organs themselves.’

‘Some examples will render this point of doctrine which is important, more evident. The stomach is composed of the serous, organic muscular, mucous, and of almost all the common textures, as the arterial, the venous, &c. which we can consider separately. Now if you should attempt to describe in a general manner, the peculiar life of the stomach it is evidently impossible that you could give a very precise and exact idea of it. In fact the mucous surface is so different from the serous, and both so different from the muscular, that by associating them together, the whole would be confused. The same is true of the intestines, the bladder, the womb, &c.; if you do not distinguish what belongs to each of the textures that form the compound organs, the term peculiar life will offer nothing but vagueness and uncertainty. This is so true, that oftentimes the same textures alternately belong or are foreign to their organs. The same portion of the peritoneum, for example, enters or does not enter, into the structure of the gastric viscera, according to their fulness or vacuity.

‘Shall I speak of the pectoral organs? What has the life of the fleshy texture of the heart in common with that of the membrane that surrounds it? Is not the pleura independent of the pulmonary texture? Has this texture nothing in common with the membrane that surrounds the bronchia? Is it not the same with the brain in relation to its membranes, of the different parts of the eye, the ear, &c.?’

‘When we study a function, it is necessary carefully to consider in a general manner, the compound organ that performs it; but when you wish to know the properties and life of this organ, it is absolutely necessary to decompose it. In the same way, if you would have only general notions of anatomy, you can study each organ as a whole; but it is essential to separate the textures, if you have a desire to analyze with accuracy its intimate structure.’ Vol. i. pp. 47, 49.

In connexion with the consideration of the vital properties of the textures, Bichat enters into a careful examination of the sympathetic affections of which they are the seat. His remarks

upon this subject are particularly valuable. Generally speaking, each texture will suffer sympathetically in those which are its predominant vital properties. The muscles, distinguished by the possession of animal contractility, are, when they sympathize, affected with convulsions. The cellular membrane is affected with inflammation or serous effusion, because it is particularly the seat of organic sensibility and insensible organic contractility—the mucous, with an increase in the production of its fluids, from a corresponding cause. That is to say, there is produced in each texture sympathetically, such an affection as it would be most likely to have, were it originally the object of the operation of the exciting cause of disease.

‘To make this distinction of the sympathies more evident, let us suppose a diseased organ, the stomach, for example; it becomes then a centre, whence go forth numerous sympathetic irradiations, which bring into action in the other parts, sometimes the animal sensibility, as when pains of the head come on; sometimes contractility of the same species, which is the case when worms in the stomach produce convulsions in children; sometimes, sensible organic contractility, which, raised in the heart by certain pains in the stomach, occasions fever; oftentimes the insensible organic contractility and the organic sensibility, as when the gastric affections increase sympathetically the secretions that take place upon the tongue, and produce there a mucous coat. There are then sympathies of animal sensibility and contractility, and of organic sensibility and contractility. Vol. i. pp. 227, 228.

1. As it respects sympathies of the first-mentioned property, viz., the animal sensibility, ‘it appears,’ says Bichat, ‘that all sympathetic pains are nothing but an aberration of the internal sensitive principle, which refers to one part a sensation which exists in another.’ The cause of this sympathy is no more then, than a mistake of the percipient principle, a derangement of perception, and exists in the brain. The cause of pain may exist in one part, and the proper notice thereof, be transmitted to the brain, which may yet mistake the direction from which the information comes, and of course feel the pain in another part. Thus a stone in the bladder produces pain at the glans penis—the pain of a stump after amputation is referred to the foot or the arm, which has been removed.

2. When the animal contractility of a part is brought into action by sympathy, there is a ‘triple action of the brain, of the nerves that go to the muscles that move, and of the muscles themselves. The organ originally affected, acts first upon the brain, which then re-acts by means of its nervous communications upon the muscles, and throws them into convulsive contractions.’

This is proved by experiments of Bichat, in which muscles whose nerves had been cut, did not partake in the contractions produced in all the other voluntary muscles.

3. As to the sympathies of the organic contractility, the means by which they are effected, are more obscure. That it is not done through the medium of the brain, would seem to follow from the fact that 'the brain never exerts any influence upon the involuntary muscles; whatever be the irritation that the nerves experience which go to them, the muscles remain unaffected.' That it is not through the medium of continuous membranes, as had been supposed, Bichat proved by the fact that the irritation of the uvula produced efforts to vomit in a dog, whose œsophagus had been previously divided. On this head, we must, as yet, submit to remain in entire ignorance, and

4. The same must be confessed with regard to those sympathies in which the organic sensibility and insensible organic contractility are called into action—the causes of the two kinds of organic sympathies are absolutely unknown, and a thick veil hides the agents of communication which connect, in this case, the organ from which the sympathetic influence goes to that which receives it.' p. 232.

'Authors have considered sympathies in too loose a manner. Some have admitted, others have rejected the intermediate office of the brain; some have not pronounced upon it. All would be agreed, if instead of attempting to resolve the question in a general manner, they had distinguished the sympathies according to the vital forces, of which they are only aberrations and irregular developments; they would have seen, that in the animal sympathies of contractility, the cerebral action is essential; for we cannot conceive of any contractility of this species, without the double influence, nervous and cerebral, upon the muscles; that on the contrary, in the organic sympathies of contractility, the action of the brain is nothing; the affected organ acts directly and without any thing intermediate upon that which contracts sympathetically. When the heart, the stomach, the intestines, &c. move, when the parotid and other glands increase their action by the sympathetic influence of an affected organ, certainly this organ does not act first upon the brain; for it would then be necessary that this should re-act upon those that contract; now it would not be able to influence them except by the nerves, since it is only by these that it is united to them; but all experiments and all facts prove as we shall see, that the brain has not by this means any influence over the organs with involuntary motions; then the action is direct and there is nothing intermediate. There are sympathetic motions like the natural ones; the sensible and insensible contractilities are constantly brought into action by a direct stimulus applied to the organ, whilst that of the

animal contractility is never exercised but by the cerebral stimulant, which itself requires a cause, either sympathetic or direct, in order to act upon the muscles. Vol. ii. p. 387, 388.

Next come the properties of reproduction. Under this head are considered the powers possessed by the different textures, of restoration after injury, and reproduction after destruction.

Finally, Bichat treats of the development of the several systems. That is to say, he enters into an examination of the changes which they undergo in the progress of life, from conception to death by old age, embracing, 1. their state in the *fœtus*; 2. during growth, or in infancy and youth; 3. after growth, or in the adult; and 4. in old age. It is almost unnecessary to say, that in this part of the work, as in every other, is to be found a great mass of curious and instructive matter; valuable at once, as contributing to our stock of physiological knowledge, and more particularly in a practical point of view, as directing our attention to the right mode of considering diseases in the different stages of life, and teaching the right grounds on which to proceed in their study and treatment.

This is the general course of investigation pursued in the *General Anatomy*, with relation to each of the separate textures, and there are also introduced other considerations of an incidental nature, suggested by circumstances peculiar to the constitution of some particular systems, as has been before remarked. This outline, however, affords but a faint idea of the plan and objects of the work, and still less, any conception of the rich and copious details, physiological and pathological, with which it is filled up. In both these respects it has a value, of which we are afraid to permit ourselves to speak, lest our language should be thought to have some tincture of extravagance. We are not prepared to say that we consider the physiological opinions of Bichat, viewed systematically, as approaching always very nearly the truth. At that critical point of investigation, where observation delivers the mind over to speculation—where philosophy ends, and hypothesis begins, he does not always feel willing to check the career of his ardent intellect; and although perhaps no man speculates more beautifully, it is too often speculation still. Yet this, after all, is but a small fault, and one of which he is more free, than the great majority of writers on physiology—it is a fault also, which does not, as has been too often the case, infect all his other labours, and lessen their value. Altogether, there are few men from whom we obtain more simple and chaste views, more consistent and connected ideas, more philosophical and well-bottomed principles, than from him,

We introduce in this place a few extracts, as specimens of his

touches with his trunk, reptiles by twining themselves around bodies, most animals with their snouts, &c. But the more the points of contact are multiplied, the more perfectly is the sense exercised. The hand of man is in this respect the most advantageously formed; it proves that he is better adapted to communicate with what surrounds him than all other animals; that the empire of his animal life is naturally much more extended than that of theirs; that his sensations are more accurate, because they have a means of perfection that theirs have not; and that his intellectual faculties are destined to have an infinitely greater sphere, since they have an organ infinitely better than theirs to perfect them.

Of the influence of age upon the same sense, p. 346.

‘The vital forces of the dermoid system are more weakened in old age than those of most of the others, because it is more excited during life by external bodies. Most of these bodies then make no impression upon it. The habit of feeling has blunted the animal sensibility. The touch is exercised but rarely; for, as I have observed, this sense requires to put it in action, the previous exercise of the will. We touch, because we have previously seen, heard, tasted, &c. in order to correct or confirm our other sensations; now the old man, to whom every thing around is known, to whom nothing is new, is induced to touch nothing. Compare in this respect the two extreme ages of life. The infant, to whom every thing that strikes his eyes, his ears, his nostrils, &c. is unknown, who finds in every thing that surrounds him new objects of sensation, wishes to touch and lay hold of every thing. Its little hands are in continual agitation. To touch is a pleasure to him, for every new object of sensation is agreeable. If in his last years man was transported into the midst of objects that never before struck his senses, he would oftener exercise his touch; but none of those things excite him among which he has always lived. Hence why old age is not the age of enjoyments. In fact all our pleasures are almost relative; we have but little that is absolute; now as habit blunts all the relative pleasures, which cease because they have existed, the more the sensations are accumulated by time, the less there are of new ones left to be experienced, and the more are the sources of happiness dried up. For a contrary reason, the happiest age is infancy, because it has before it the whole field of sensations to go over. Man at every step of his career leaves behind him a cause of his enjoyments. When arrived at the end he finds only indifference, a state very suitable to his situation, since it diminishes the distance that separates life from death.’

To the pathologist Bichat has laid open in this work a field of immense interest and importance—a field hitherto almost untrodden—and given a new and more profitable direction to the study of disease during life and after death.

'Since diseases'—he says—'are only alterations of the vital properties and each texture differs from the others in its properties, it is evident there must be a difference also in the diseases. In every organ then, composed of different textures, one may be diseased, while the others remain sound; now this happens in a great many cases; let us take the principal organs, for examples. Nothing is more rare than affections of the mass of the brain; nothing is more common than inflammation of the tunica arachnoides that covers it. Oftentimes, one membrane of the eye only is affected, the others preserving their ordinary degree of vitality.' 'We speak of a weak stomach, a bad stomach; this should most commonly be understood as applying to the mucous surface only. Whilst this secretes with difficulty the nutritive juices, without which digestion is impaired, the serous surface exhales as usual its fluid, the muscular coat continues to contract, &c.' 'Authors have said much of the inflammation of the stomach, the intestines, the bladder, &c. For myself I believe that this disease rarely ever affects at first the whole of any of these organs, except in the case where poison or some other deleterious substance acts upon them. There are for the mucous surface of the stomach and intestines, acute and chronic catarrhs, for the peritoneum serous inflammations, perhaps even for the layer of organic muscles that separates the two membranes, there is a particular kind of inflammation, though we have as yet hardly any thing certain upon this point; but the stomach, the intestines, and the bladder are not suddenly affected with these three diseases. A diseased texture may affect those near it, but the primitive affection seizes only upon one. I have examined a great number of bodies in which the peritoneum was inflamed either upon the intestines, the stomach, the pelvis, or universally; now very often when this affection is chronic, and almost always when it is acute, the subjacent organs remain sound. I have never seen this membrane exclusively diseased upon one organ, while that of the neighbouring ones remained untouched; its affection is propagated more or less remotely. I know not why authors have hardly ever spoken of its inflammation, and have placed to the account of the subjacent viscera that which most often belongs only to this. There are almost as many cases of peritonitis as of pleurisy, and yet while these last have been particularly noticed the others are almost entirely overlooked. Oftentimes that part of the peritoneum corresponding to an organ, is much inflamed; we see it in the case of the stomach; we observe especially after the suppression of the lochia or the menses, that it is the portion that lines the pelvis that is first affected. But soon the affection becomes more or less general; at least examinations after death prove it satisfactorily.' pp. 49, 50, 51.—Vol. i.

We cannot better perhaps illustrate the great advantages arising from the application of General Anatomy to the study of
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pathology, then by alluding to the views taken of some diseases by the most eminent physicians, before they were in the habit of referring to the distinctions of texture. Compare, for instance, the accounts of Pneumonia and the Inflammation of the abdominal organs as contained in Cullen's First Lines, with those which any tyro may now derive from even a tolerable share of attention to the history of these diseases, guided and directed by a previous acquaintance with Bichat's General Anatomy or even his Treatise on the Membranes. Is it not obvious that he has not clear ideas of the pathological state of the parts? Does he not throw together under one name, affections of different textures, of a very different nature and requiring a great diversity of treatment, merely because they all appertain to one organ? Not that Dr. Cullen did not, to himself, make such a discrimination of cases as enabled him to treat them with intelligence and success—but the power of doing this he could not convey to others, from the defect to which we have just alluded: it was a discrimination founded upon experience and tact alone, and not according to established principles which even he recognized, and therefore could not be communicated. Now it is not the least of the advantages of a correct pathology, that it enables us, in some measure, to transfer to others, the discriminations, the tact, which we learn from our experience. Experience founded upon and guided by methodical principles is communicable. That which is not so founded, is not communicable; and is thus, like the treasures of an unknown tongue, lost irrecoverably.

Compare the views which are now taken of the pathology of the joints, with those which were current before the doctrine of the textures was much regarded by surgeons. The distinctions with which we are now familiar, were hardly recognized, or if the difference of cases was observed, they were not then as now, referred to the difference of texture. But even from a knowledge of the history of the textures in health, we derive many hints to assist in determining which is affected in disease. Suppose that a joint has been suddenly twisted and is followed by pain and inflammation—we may fairly infer in this case that it is the fibrous texture concerned in the joint, which is injured because twisting affects that texture with pain but does not the synovial. On the other hand suppose that a blow has been inflicted, a wound made into the joint, or that is affected from cold, we may fairly conclude in these cases that the synovial membrane is principally in fault. These discriminations lead us to corresponding differences in prognosis and treatment, which

are of no small importance to the well doing of the patient or the reputation of the practitioner.*

In fact there is no organ of any importance in the human body whose pathology is not capable of being enlightened—none whose diseases may not be more accurately discriminated and scientifically treated by a knowledge of the Anatomy of the Textures. And it is not merely the history of diseases that this study will elucidate, it is the most efficient, and indeed the only sure guide in the pursuit of morbid anatomy.

‘I divide morbid anatomy’—says our author—‘into two great parts. The first contains the history of the alterations common to each system, whatever may be the organ in the structure of which it is concerned, or whatever may be the place it occupies;’ and having thus pointed out the alterations peculiar to each system, in whatever organ it is found, an examination should be made of the diseases peculiar to each region; as those of the head, the chest, abdomen, and the extremities, after the common method. Here they may be divided, 1st. into diseases which can especially affect an organ as a whole, and not one of its textures alone, which is very rare; 2d. into the characters peculiar to each portion of this or that texture; for example in the head, the peculiar symptoms which are seen in diseases of the serous surface of the tunica arachnoides, those in affections of the mucous surface of the pituitary membrane, &c.

‘It seems to me we live at a period, when morbid anatomy should take a higher stand. This science is not only that of or-

* We should be sorry to do injustice to any other writer, by attributing, or seeming to attribute too much originality to Bichat. We are fully aware that others before him had observed and commented upon the distinctions of texture as influencing disease. The plan of the work which has been reviewed, we believe to be owing entirely to him, but the grand and general principle on which it is founded, had been acknowledged by other individuals, particularly by Dr. Carmichael Smith, Pinel and Mr. Hunter, and Bichat did no more than extend and apply it and follow it out in all its bearings. It had been distinctly taught by Mr. Hunter, some time before any publication of Bichat, that inflammation ordinarily affects only one texture at first,—that it spreads on this first texture more readily than to any other texture, which may be connected with it—that it pursues different courses on different textures and that it produces different symptoms, when affecting different textures of the same organ.

The merit of Bichat consists in having illustrated these truths clearly and copiously, in having given them an interest and importance by laying them at the foundation of his great work, and not at all in their discovery. He has stated them more distinctly and beautifully than Hunter, but was not more thoroughly and practically aware of their existence and importance. We make these remarks the more readily, because Bichat, although he must have been acquainted with his works, has neglected to acknowledge the claims of the great English Physiologist, and failed to pay that tribute to his genius which was due from him.

ganic derangements, that take place slowly, as the principles or consequences of chronic diseases, it consists in the examination of all the alterations our organs can undergo, at any period in which we may observe their diseases. With the exception of certain kinds of fevers and nervous affections, every thing in pathology is within the province of this science. How weak appears the reasoning of many great physicians, when we examine it, not in their works, but on the dead body. Medicine was for a long time excluded from the circle of the exact sciences; it will have a right to be associated with them, at least in the diagnostics of diseases, when we shall every where unite to accurate observation, an examination of the changes our organs undergo. This course is beginning to be that of all rational minds; it will without doubt soon be general. What is observation worth, if we are ignorant of the seat of the disease? You may take notes, for twenty years, from morning to night at the bedside of the sick, upon the diseases of the heart, the lungs, the gastric viscera, &c. and all will be to you only a confusion of symptoms, which, not being united in one point, will necessarily present only a train of incoherent phenomena. Open a few bodies, this obscurity will soon disappear, which observation alone would never have been able to have dissipated.' pp. 58, 59, 60. vol. i.

We are not disposed to undervalue the study of morbid anatomy particularly in opposition to so high an authority as that just quoted. There is no doubt that the most effectual way by which to obtain a thorough knowledge of disease is by uniting an attention to this science with a careful and diligent study of living pathology. But morbid anatomy without the latter can afford no better knowledge of the nature of disease, than the mere ordinary dissection of a dead body would of its physiology as a living one; and we are not sure that it has not been represented as of too exclusive an importance, at the expense of other modes of investigation of at least equal value. Without the study of living pathology it is nothing, whilst with the assistance of the latter alone, we may make no contemptible progress in the study of disease. It is to be recollected that by far the greater number of practitioners in medicine can have but limited, or no opportunities for the inspection of subjects after death. It is a source of information almost denied them, and if it be insisted on as an indispensable requisite to a successful prosecution of the study of pathology, the majority of us must be content to slumber out our professional career in ignorance and obscurity. But we conceive much may be done to remedy this deficiency in our means of investigation, by the careful improvement of those which are accessible to all. Much may be done by a perse-

vering attention to the history of diseases during life, connected with a previous intimate knowledge of the anatomy, the powers and the functions of the different textures and organs during health. Certainly if we know the natural office of each texture and each organ, by comparing the phenomena of disease with those of health, we may ascertain where the derangement exists and where our remedies are to be directed. It is true, that we should be in this way sometimes misled by symptoms having their origin in sympathy, and have our attention withdrawn from the principal seat of disease, to another spot where the morbid phenomena were only secondary. But this difficulty may be lessened by exceedingly minute scrutiny, founded upon and connected with an accurate knowledge of the laws of sympathy in health, and is after all not much better cleared up by morbid anatomy.

Besides, the appearances which are left by the greater part of even the most violent acute diseases are too often either slight in themselves or else exceedingly evanescent. Disorders apparently indicating inflammation of the most severe character, leave frequently but a slight blush in the dead body, which seems too trivial to have occasioned the symptoms which had preceded it; and in perhaps half our *post mortem* examinations, we are puzzled to account for the manner in which the local affection, supposing us to have found any marks of it, has caused the phenomena of the disease and brought on the death of the patient. And further also, if we admit with Bichat, that our diseases depend in the first place on the alteration of some of the properties, and that disorganization only takes place in consequence of this alteration, it is not to be expected that in acute and rapid cases we should find any considerable deviation from the natural appearance of the parts. If disorder begins in the properties, it may go on and produce death without extending to the organization. Every one must be familiar with cases which promised during life to exhibit the most extensive and interesting alterations of structure, and yet after death displayed only some trivial disorganization, some unimportant effusion—a little discoloration perhaps of a serous membrane, or a little extra serum.

We repeat again we do not undervalue morbid anatomy. We only wish that it may not be over-valued,—that it may not be exclusively recommended. We believe that the study of disease in the living subject is more important than the study of it in the dead subject—the study of morbid phenomena, more instructive than that of morbid parts, and not that any of these modes of acquiring knowledge is without value. We ask any physician whether he can as well discover what

symptoms of it predominate, or in conformity with preconceived and hypothetical notions of its origin and nature. When occurring in children, the term Marasmus has been adopted by some for its designation, from the wasting uniformly attending it; and it appears, independent of the authority by which its employment comes recommended, to be as appropriate for it as any other perhaps that could be chosen, for it excludes the admission of all hypothesis, at the same time that it implies, very properly, the absence of organic disease, and is, therefore, in reference to this fact, sufficiently distinctive of every form of the complaint.

‘It has, however, I believe, been hitherto regarded as peculiar to children and infants, though, if the views which I have taken of it be correct, there is no essential difference between the marasmus of children, and that disorder of adults which may be strictly denominated bilious, either in the nature, or in the causes, or in the means of cure. It varies somewhat, indeed, in its appearances, and in the intensity of its symptoms, as well as in the modes of its termination, but these variations are slight and may justly be considered as only modifications of the same complaint, originating from the influence of constitutional causes, and more particularly from the difference in the susceptibility of the system, and of particular parts of the system, to be acted on variously at the different periods of life.

Viewing, therefore, the marasmus of children to be the same complaint as the bilious disorder, strictly so called, of adults, I shall adopt these names as synonymous and convertible terms, and as comprehending under them, every form and variety of the complaint.’ pp. 9, 10.

‘There are two stages into which the complaint may be divided, but which, however, are liable to be overlooked, by their running so often rapidly into each other, or by inattention to its first, and sometimes, its seemingly unimportant stage. The characteristic symptoms of each are tolerably well defined, the chronic form of it being distinguished by a morbidly craving appetite, unaccompanied by much thirst or fever, whilst the acute one is attended by a considerable loss, or by an absolute extinction of the appetite, with a considerable degree of both thirst and fever. p. 11.

It is not necessary to go into an examination of the symptoms as given by Dr. A. of the varieties of this disease occasioned by the different periods of life, to see that he includes under one name almost the whole class of the bowel complaints of children, whether arising from the irritation of teething, or of worms, or of unwholesome air or food, as well as the whole class of bilious or dyspeptic affections in adults, where there is no organic disease. We are not disposed to enter upon the inquiry into the propriety or utility of this generalization. There doubtless is much in common in the diseases here classed together, however different the irritation which may have given rise to them. But

we are not yet prepared to acknowledge that they are so essentially the same as to make it proper to give them all the same name, and subject them to the same, or nearly the same, treatment. However similar some of the symptoms may be, we believe it of importance to a proper treatment, to keep in mind the specific cause of the disease, as having no small influence, at least in modifying its character.

Dr. Ayre, of course, includes under the name of *marasmus*, a great number of what have hitherto been considered distinct diseases.

‘Of these several sympathetic affections, there are, indeed, a great variety; but there are also a great variety of causes, acting in the system itself, which in these, as in other cases, are capable of modifying the effects of any morbid agent. As causes for the variation in the several sympathetic affections, we may, I think, look to those peculiarities which depend upon differences in age or constitution, and previous habits, as it is probable they have likewise a considerable influence in modifying the effects, or in determining the direction, of any noxious irritant; and that thus, the same cause may produce *hydrocephalus internus* in the scrofulous subject, and *chorea* in the merely nervous or irritable one; or *chorea* in the child, and convulsions in the infant; or the irritation may be directed to the skin, and produce herpetic or other diseases; or to the lungs, as the most susceptible part in those asthmatically or consumptively disposed; or it may act upon the mucous or serous membranes, and produce an increased secretion of them; or it may act locally, and give rise to *tabes mesenterica*; or both locally and generally, and give rise to the various forms of *scrofula*.

‘It would be exceeding the scope and object of this essay, to enter upon an inquiry concerning the precise nature of the several diseases, thus produced by sympathetic irritation, since many of them become early independent of their cause; giving rise, in many cases, to morbid actions of a local or general nature, which may either perpetuate the diseases after the removal of their cause, or favour the generation of others. I shall, therefore, close this part of my subject with merely remarking, in reference to these facts, that, in treating diseases which originate from a disorder of the digestive organs, it is important to observe, that, whilst the primary symptoms proper to it are removable with their cause, those of a secondary kind, and which result from the first, may demand in many cases a treatment essentially different from them; and that it is only by attention to these distinctions, that errors can be avoided in our notions respecting the nature, and suitable mode, of treating these diseases.’ pp. 83, 84.

The following extracts shew our author’s views of the *pathology* of this disease, or as we should call them, of these diseases.

‘If any one of these [the digestive] functions become deranged, it is liable to throw one or more of the others into disorder ; the measure, as well as the nature of this derangement, varying from variations in the degrees of the sympathetic relation of the organs to each other. Thus, the stomach may be disordered in its functions, by a cause directly applied to it, and may induce a correspondent derangement in the liver ; or it may become so, by means of the same sympathies, from a complaint commencing in this latter organ. In the former instance, where the primary derangement is in the stomach, an imperfect or morbid stimulus may be given to the liver, from the stimulus communicated to the stomach by its own disordered secretions, or by the imperfectly digested food accumulated there ; in which case, the biliary secretion will be scanty and otherwise defective, whilst in the latter case, where the disorder commences in the liver, it may be communicated by a direct sympathy to the stomach, or by the connexion which subsists between this latter organ and the alimentary canal, whereby a series of irregular actions in the chylopoietic viscera will ensue. As to what the particular deranged states of the stomach are, which give rise to disorder in the functions of the liver, or in what they differ from those, as in mere dyspepsia and some other affections of that organ, in which no such effects are produced ; and whether the stomach be constantly, or only occasionally, the first in the series of organs to be affected, it is difficult fully to determine. It seems, indeed, probable, from the tough phlegm, which is early and constantly present in the stomach and bowels of those affected with marasmus, that it has a considerable influence in many cases in aggravating if not in causing, this complaint ; and this partly, perhaps, by its own morbid irritation, but chiefly by the permanent interruption given to a healthful digestion by its presence, whereby that particular stimulus is prevented from being given to the stomach, which has been noticed as necessary to excite the liver, and other subordinate organs, into their full and proper action. And this notion may be allowed to derive some support from the fact, that beneficial effects are generally found to result from an emetic exhibited at an early stage of the complaint, when much of this phlegm is always thrown off from the stomach, and from the uniform observation, that an unnatural and tough slime is always discharged from the bowels before a cure can be effected. But upon whatever hypothesis, we may found our explanation of the origin of marasmus, or of the nature of those morbid states of the stomach and bowels which lead to it, or of the precise modes of action of those remote causes, which are found to act successively in increasing or in continuing it, it appears to be indubitable, that its seat is always in the liver, and that the means directed for the relief of the deranged action of this organ, are adequate to restore the other disordered functions to a healthy state.’ pp. 87—89.

‘It was stated, in the account of the symptoms of this complaint, that there are two stages, namely, an acute and a chronic one, into

which it may be divided. These states, I think, may be considered as depending upon different conditions of the liver, there being a congestive state of the vena portarum and its branches in both forms of the complaint; but in the acute one, there is a higher degree of this congestive state, giving rise, in its turn, to a certain degree of venous congestion in those organs of the abdomen, whose circulation is associated with that of the liver.' p. 94.

It will not be doubted that in all the complaints which Dr. Ayre includes in his definition of *marasmus*, the functions of the liver are more or less deranged from their healthy state. But we see no good reason for supposing this derangement to be limited to that organ. When several organs are associated together in the healthy performance of their functions, it is natural to suppose that they should likewise be connected in their diseased actions. The stomach and intestines are from their situation and office more directly exposed to unnatural irritations than the liver. Indeed Dr. A. supposes the disease to commence in the stomach, and to be transmitted by sympathy to the liver. We do not see that it is necessary to suppose that the diseased action is thus concentrated in the liver to the exclusion of the other organs connected with it in their functions. It is true the secretions from the other organs, being colourless, are less calculated to exhibit to the eye any changes of character from disease, than the bile. But it does not follow that their properties are not equally changed in other respects; and we should therefore regard the state of the biliary secretion rather as an index of the condition of the rest, than as peculiarly subject to disease.

We pass over our author's valuable and important remarks on the management of infants, and come to the treatment of the bilious disorder, which he has described. And here we are happy in being able to agree with him more fully than we have done in his theory of the disease. Our explanation of the *modus operandi* of medicines might in some instances differ from his, though we think that in the essential parts of the treatment, his practice must be highly useful. He states the indications of cure to be,

'1st. To correct the disordered action of the liver, and remove the congestive state of that organ: 2d. To cleanse the bowels of their morbid secretions, and the imperfectly digested matters collected there; and 3d. To lessen or avoid all those causes which tend to aggravate the complaint. p. 141.

The two first indications are to be fulfilled by the use of purgatives properly administered; and among these calomel holds the first rank.

‘In administering calomel in marasmus, it is necessary to bear in mind, that the disorder consists in a derangement in the functions of the liver, and that, whatever irritation may be present from morbid accumulations in the bowels, this medicine is not usefully employed if given as a purge, but that its proper action being on the liver, medicines of a strictly purgative kind should be selected for their evacuation. The doses, therefore, of calomel should be small, and should precede, by some hours, the employment of the purgative, as it appears to be most serviceable, and to answer its specific purpose best, when it is allowed to continue some time in the stomach. In ordinary cases of the disorder, a dose once in twenty-four hours is sufficient: but where the symptoms are urgent, it is often necessary to give it more frequently, abstaining from the use of purgatives until after the last dose of the calomel has been taken. This will be particularly the case, in those sudden attacks of the disorder to which infants are subject, and in which the extremities becoming cold and livid, and the face sunken and discoloured, denote the approach of convulsions.

‘Where the bowels are constipated, and the general irritation and restlessness appear to proceed from the morbid irritation of sordes in the primæ viæ, as well as from the disordered action of the liver, it will be proper to give a larger dose than usual, following it up in two or three hours with a brisk cathartic.’ pp. 144, 145.

‘It is a very common circumstance, especially with children, for the first dose or two of calomel, given nightly, to excite sickness and vomiting shortly after being taken, whilst those that follow often produce no inconvenience. Its emetic effect in these instances, as it denotes considerable disorder of the stomach, may lead some perhaps to consider it proper to discontinue the use of the medicine, or to order an emetic; but neither of these measures are necessary, as the stomach becomes sufficiently clear by the sickness to bear the calomel afterwards. In no case is it either necessary or proper, to allow the medicine to affect the mouth, and therefore every precaution should be taken, by the smallness of the doses and unfrequency of their repetition, and by preserving an open state of the bowels, to guard against this effect. When the natural secretion of bile is restored, it is proper to discontinue the employment of the calomel, as it often, in these cases, disagrees with the stomach, and to give the opening medicine alone.

‘Sometimes it is found, after employing the calomel some time, and restoring the patient to a state approaching to convalescence, that the symptoms of biliary disorder become stationary, or even return, as evidenced by the unnatural appearance of the motions. In these cases, mercurial friction, employed nightly on the right side, for a short time, will answer a more valuable purpose than a perseverance in the use of the calomel; though the same precautions must be attended to here in guarding the system from its effects.’—pp. 146, 147.

When more active opening medicines are necessary to remove the morbid matters from the bowels, Dr. A. prefers the different purging salts.

‘In employing these medicines,’ he says, ‘I have found it convenient to give them in small doses, largely diluted with water; for, when they are taken in this way, they act without irritating the stomach, and produce the required evacuations without those inconveniences, which are experienced from medicines of less activity, when given in a concentrated form. In the diluted state, in which I thus administer them, I consider that I am imitating, as far as it is practicable, and perhaps useful, the saline aperient springs of this country, whose powers in relieving, and not unfrequently in curing, the various forms of this disorder, have been long and deservedly distinguished.’ p. 150.

‘In some instances, however, the saline purges are found insufficient to move the bowels, and a more active medicine is required. This, from some cause not easily explained, is a common occurrence in children, and it is often surprising what powerful medicines they sometimes need to procure a movement from their bowels.’ p. 151.

Our author rejects the use of tonics, unless during the convalescence.

‘If given indeed, before the disorder is considerably removed, they seldom fail to aggravate it, increasing the thirst and fever, and the pain about the stomach or bowels; and particularly so in children, with whom, it may be observed, tonics seldom agree, and for whom they are happily seldom wanted. I therefore now defer the use of medicines of that class until the convalescent state; avoiding, by this means, the difficulty, which must be otherwise sometimes encountered, in distinguishing the natural causes from those accidental ones, which occasionally increase the fever.’ p. 152.

Emetics he gives occasionally under certain circumstances of disease.

‘But beside the employment of medicines of the purgative class, the exhibition of an emetic is often found of considerable service in relieving, and sometimes in removing, the disorder. It is chiefly, however, useful at the commencement of the attack, when, by clearing the stomach of the phlegm which is always present in it, the morbid source of irritation is thereby apparently cut off. In the confirmed state of the complaint, I have rarely seen it useful; though the frequent nausea, which is often present in such cases, would appear to indicate its use.’ p. 153.

Dr. A. disapproves of the practice of prescribing for symptoms, as peculiarly improper in this complaint. The watchfulness and restlessness, the diarrhœa, as well as the febrile symptoms, and the aphthæ, which sometimes make a part of the disease, are to be left to the effect of the remedies for the prin-

cial complaint, without the intervention of opiates, antimonials, &c. We have not room to follow him through his directions in respect to diet and regimen; but they will be found to be judicious, and a very important part of the treatment.

This treatise is eminently what it professes to be, a *practical* one; and as such we cordially recommend it to the attention of our readers as a work of great value. The author's practice in the diseases of which he treats is evidently the result of observation. In these complaints, especially in children, those affections which in the first instance are the effect of sympathy, often become so soon of importance in the treatment, as to demand the same attention from the physician, as if they had been the original cause of the disease. It is the *present* state of the diseased organs, which the practitioner must become acquainted with; and in this investigation, he will find great assistance from the work before us, as well as in directing him to suitable remedies in the different modifications and stages of the complaint.

It will be observed that we have made our quotations from an edition published at Northampton, which is a copy of the first English edition. Since this has been in the press, a second edition has been received in this country, in which are some considerable alterations and improvements. Dr. Ayre has, very judiciously we think, given up the name of marasmus, and calls his work 'Practical observations on those disorders of the liver and other organs of digestion which produce the several forms of the bilious complaint.' The cause of this alteration is thus stated by Dr. A. in his preface. 'In the first edition of the following pages, I employed the term marasmus as a synonym to designate the bilious affection. Its use, however, in this way, has been objected to by foreign writers; and I think justly. I have therefore abandoned it, and, with a change in the title, I have now made a considerable alteration in the arrangement, and several additions to the matter of the work.'

We have made our remarks upon the work as it is in the first edition, because that is the work which is republished in this country. Had the second edition been received in season, the publisher would doubtless have made that his copy. As it is, the work is substantially the same in all important particulars. And although we have differed from the author in respect to some of his theoretical opinions, in a *practical* (and therefore in the most important) point of view, we regard this a highly valuable work.

It is to be regretted that the American publisher has not given us the work in a style more conformable to that of the original. The size of the page is too small, and there are too many typo-

graphical errors. We could wish never to see a medical book on any subject of a size smaller than octavo. It is true, the present size of this book answers the purpose of rendering it cheaper, and is so far favourable to its becoming known to some members of the profession, who might not otherwise procure it; and so long as there is so little disposition in the profession to favour the publication of medical books, we cannot censure a publisher for taking advantage of every consideration to procure the sale of his work.

It is a reproach to the medical profession in this country, that, excepting those labour saving machines, systems of practice, medical dictionaries, and vade-mecums, very few of such books as a physician in practice might be expected to read, find a sale sufficient to indemnify the publisher for the expence of printing them. The inference in respect to the reading character of the profession is most humiliating; but we apprehend it is useless to conceal the fact that there are few readers among us. Practitioners in medicine talk of their experience as their title to the confidence of the public. As if the experience of one man were of more worth than the united observations of the whole medical world; as if the experience of a few years were to be set in opposition to that of the whole period of medical science! We do not mean to disparage medical experience, if by that term is meant the result of careful observation connected with a judicious application of what is learned from others. But that sort of experience which rises up in exclusive competition with reading and investigation is worse than useless. It converts the assertor of it either into a tame practitioner by rote, or a rash and dangerous experimenter.

SELECTIONS.

[The interesting views presented in the following paper, and the high character of the author, render all apology unnecessary for inserting it entire.—Ed.]

Some observations on the origin, nature, and prevention of Typhous Fever. By JOHN ARMSTRONG, M.D. Physician to the London Fever Hospital, and Lecturer on the principles and practice of physic.

[Communicated to the present Editor by his friend the author.]

AS circumstances have occurred which will delay the publication of an advertised work which I have long been preparing for the press, and as typhous fever has again made its appearance in Ireland, it is incumbent upon me now to lay before the profession the result of my researches, in regard to the origin of that malady; and if the inferences, which I have most deliberately drawn from an extensive collection of facts, be correct on this important subject, they will lead to clearer views respecting the real nature of typhous fever, and to more certain and efficacious means respecting its prevention.

In 1819, I attended a patient labouring under an intermittent fever, which, in its progress, put on a remittent character, and that again assumed the continued character, but with all the most malignant signs of what is usually denominated typhous fever. This case made a very deep impression upon my mind, and it then occurred to me, for the first time, that intermittent, remittent, and typhous fever, might, possibly, be modifications of one and the same disease, and that, possibly, the strong prejudice of education, and my own inherent pride, might have hitherto prevented me from investigating the primary source of this disease, with that simplicity and purity of mind, which the science of medicine requires. Up to this period, I had firmly believed, that human contagion was the sole cause of genuine typhous fever, but a doubt having been thus excited, I determined, if possible, to leave my mind free from all bias for the future, and then endeavoured to commence my inquiries respecting the origin of typhous fever, as if I had previously known nothing of the subject. Nearly three years have now

elapsed, and within that term a very great number of cases of typhous fever has fallen under my observation, and I have spent much time in accurately recording their symptoms, and in endeavouring to deduce legitimate conclusions, not only from them, but from the various circumstances with which they were connected in their rise and progress. This investigation has most decidedly led me to the conclusion, that what the Italians vaguely call *mal aria*, and the English, as vaguely, *marsh effluvium*, is the primary source of typhous fever, and I will now state the substance of the facts upon which this proposition is so confidently advanced.

First, The intermittent, remittent, and what is called continued typhous fever, pass or repass, into each other, as numerous cases in my possession indisputably show; and, secondly, the remittent fever, from *mal aria* or *marsh effluvium*, has a combination of symptoms exactly similar to those which occur in continued typhous fever, and which, as a combination, occur in no two other affections whatever, so far as I have been able to ascertain from the most minute examination. But some remarks will be necessary fully to illustrate this particular and most important point.

The intermittent fever is marked by a successive cold, hot, and sweating stage, followed by an intermission, and occurring again after a certain interval. All medical writers allow, that what is called the marsh remittent fever is a modification of the intermittent, though in the former, the cold stage is absent; and indeed, we so frequently see these affections exchange characters, as to leave no doubt on the subject. The relation between the remittent and the intermittent is not more intimate than the relation between the remittent and continued typhus; so that if I were now obliged to make a nosological arrangement, I should call the disease intermittent, remittent, or continued typhus, according to the type which it assumed. In tracing the history of many of the cases backward of remittent or continued typhus, I have found that they commenced as intermittents, and I have seen many cases of the remittent run into the continued typhus; and, on the contrary, I have known the continued typhus become remittent or intermittent. But though the continued, remittent, and intermittent forms of this disease constitute its leading varieties, yet each of these forms is occasionally liable to certain deviations in its course, which cannot be correctly arranged under any systematic divisions of the schools. But at present I shall not allude to these occasional aberrations, as my main object is to establish the identity of marsh remittent, and continued typhous fever, and

therefore I shall examine each under the symptoms which they observe in their regular and unequivocal forms.

The remittent form, as it occurs in this country, is always attended by a simultaneous affection of the brain, mucous membrane of the air passages, mucous membrane of the alimentary canal, and of the liver; and this peculiar combination of symptoms is accompanied by as peculiar a lassitude of mind and loss of muscular power. The affection of the brain, among other signs, is denoted by a dropping of the upper eye-lids, which, therefore, cover a larger portion of the globe of the eyes than natural; while the eye itself is more glary than in health, and yet it conveys an expression of dulness or indifference of mind, so that there is a remarkable mixture of physical brightness and intellectual muddiness in the expression of the countenance. It is difficult to convey this mixed expression in words, but any practitioner who has once seen it could hardly mistake it again. The affection of the lining of the air passages, is partly marked by some preternaturally purplish hue of the lips, attended with more or less huskiness of the voice, more especially observable when the patient coughs; and the cough is usually slight or severe according to the degree of the affection of the lining of the respiratory passages. The affection of the mucous membrane of the bowels and of the liver, is generally marked by the evacuations from the bowels being mixed with glary mucus and dark bile, which often resembles brown melted resin. There is also frequently some obscure abdominal uneasiness on pressure, especially about the pit of the stomach. The tongue is covered by a dirty whitish fur in the centre, and its edges are usually redder than natural; but in the progress of the disease it often becomes brownish in the centre, and the breath, more particularly in cases of the continued type, has almost always a peculiarly sickly odour.

The lassitude of mind, and the prostration of strength, are closely connected with the state of the mucous membrane of the air passages and the affection of the brain; for the lassitude and languor are always the greatest in those cases where this combined affection is the most strongly indicated. This lassitude and languor are also remarkably indicated by the voice, manner, position, and motions of the patient. The remissions, when distinct, occur under two circumstances. The patient either becomes gradually or suddenly hot; and the hot paroxysm most frequently comes on towards evening, continues through the night, and terminates commonly towards the morning, the skin at that time becoming moist and moderately warm, or quite cool, but not moist; while the pulse in both instances

becomes slower, softer, and of less volume than during the hot paroxysms. Now the only difference between the remittent fever and continued typhous fever, is, that in the latter, as it appears in adults, the symptoms are more severe, and the remissions are entirely absent; the skin being hot or warm, and the pulse quicker than natural during the whole day and night, though even in that form, the pulse and heat are highest at the latter period.

The combined affections, then, of the brain, lining of the air-passages, lining of the alimentary canal, and of the liver, together with a peculiar lassitude and languor, are the true diagnostic signs of the remittent, and continued forms of typhous fever. Other parts may be and sometimes are simultaneously affected, but, if we except the spinal cord, the affections of those parts are not essential, but accidental occurrences. The continued form of typhus in particular is liable to considerable variety in its expression, as the disorder may predominate most in the brain, lining of the air-passages, lining of the alimentary canal, or in the liver; but still an accurate observer cannot fail to recognise the disease from the coincidence of the above signs, though they may be slight or severe. The morbid appearances also are correspondent to the symptoms, for dissection in mortal cases shows the remains of some disorder in the circulation of the brain, lining of the air-passages, and lining of the bowels, varying considerably in degree; but it is curious, that though the secretions of the liver are so generally disturbed during the progress of the disease, yet seldom any traces of organic mischief are exhibited in that organ. Certainly one of the most remarkable peculiarities of typhus, particularly under its continued form, is the affection of the mucous membrane of the bronchia; and I could show, from many facts, that it is the main cause of the varying degree of heat, of muscular and mental disturbance, and that it not only gives rise, in the advanced stages, to the peculiar dryness and darkness of the tongue, but that, it is connected intimately with those symptoms which have been termed malignant, and which the older writers found so difficult to explain on any thing like rational principles. The want of due decarbonization of the blood is the cause of many of the most remarkable symptoms attendant on typhus; but the degrees in which this process is impeded are not always proportionate to the degrees of mucous accumulated in the bronchial tubes, and spread over their lining; for in some instances the secretion on the tongue, and on the fauces, is a sort of sticky varnish, and this same secretion, seemingly, exists occasionally on the mucous membrane of the respiratory passages, when little mucus

is, comparatively, accumulated there. Blood, not duly decarbonized, operates more or less as a narcotic on the brain, and tends materially to influence the animal heat and the heart's action; and hence partly arise, in the progress of strongly marked cases of typhus, the muddled state of the brain, the smothered heat of the surface, and the soft compressible pulse, which become its concomitants, however high the excitement may have been for the first three or four days.

It might be interesting to know, why in one person typhus assumes an intermittent, in another a remittent, and in a third a continued character. Perhaps this may depend upon two circumstances; first, upon the degree of concentration in which the poisonous miasm is applied, and, secondly, upon the condition of the body at the time of its application. If the miasm be applied in a low degree of concentration, or if it be applied to a subject whose internal organs are sound at the time, it seems to produce an intermittent fever; but if it be applied in a very concentrated form, or especially if it be applied to a subject whose internal organs are weak, then it puts on the remittent, or the continued character; for I have ascertained, beyond doubt, that the remittent and continued form of typhus are complicated with internal inflammation, separately or combinedly, in one or other of the four parts before specified, the inflammation being more intense in the continued than in the remittent typhus. Internal inflammation, then, is probably the immediate cause why typhus puts on the remittent, or continued character. In large towns, but particularly in London, the *mal aria*, or marsh effluvium, as it is too vaguely called, is probably applied in a much more concentrated state than in country districts, owing to the close, crowded, dirty, and ill-ventilated state of the habitations of the poor. The poor themselves in London, too, on account of their more dissipated habits, and the more anxious condition of their minds, have very often latent weaknesses about the internal organs:—hence, when they are exposed to the influence of this *mal aria*, or marsh effluvium, the subsequent shock most frequently gives rise to some visceral inflammation, and hence the disease so very often assumes the remittent or continued type in the metropolis; though I have facts to shew that the intermittent form of the disease is more common than many practitioners imagine.

The only objection, which has struck me, to this view is, that the miasma which produces the intermittent form may be originally human, and not marsh miasma, because the ill-ventilated habitations of the poor will as certainly confine the effluvium of the human body as it will marsh miasma. But after the im-

mense body of evidence which Dr. Bancroft has collected, to shew that human effluviūm, however concentrated, does not produce typhous or contagious fever, it seems much more philosophical to conclude, that it is the concentration of marsh, and not human miasma, which originally produces this disease. Besides, it is an important fact, that if the earth be bound up for some days by a hard frost, typhous fever ceases to exist in districts where it before prevailed, though the people are then as much, or even more crowded together, which shows that something is necessary for the generation of the cause of this peculiar disease, different from human effluviūm.

The intermittent form of the disease, too, arises in situations where there is no reason whatever for suspecting the existence of human contagion, as, for instance, in well-known places in various parts of England. The same remark as forcibly obtains in regard to the remittent form of the disease, which abounds in some places where the poisonous exhalation of the earth is known to prevail; and as the continued form of the disease is only an aggravated one of the remittent, as it has all its peculiar, pathognomonic, distinguishing signs, which do not, combinedly, exist in any other disease, the identity of the continued with the remittent form of the disease appears to me satisfactorily established.

It is, I know, a common opinion, that what is called, in general terms, fever, varies so much in its expression, that its characters cannot be delineated so as to present kindred and cognizable features; but all the observations which I have made respecting disease, lead me to the conclusion, that the same causes always present similar results under similar circumstances. Only, for example, ascertain the various forms which small-pox assumes, and the various circumstances under which those forms occur, and it will be found that they observe certain and regular laws. It is so with respect to all other diseases, but particularly so with respect to typhous fever, the symptoms of which are as strikingly uniform, in its leading varieties, as those which occur in small-pox, or in any other disease known to proceed from one specific source.

The effects of *mal aria*, when connected with fever, are, according to my observation, as uniform as the effects of the peculiar matter of small-pox, when that disease is connected with fever; and this identity of regular effects is as strong a presumption of the identity of the cause in the one as in the other. If it were taken for granted, by way of argument, that the peculiar matter of small-pox, like the peculiar matter of typhus, primarily arose from a source entirely external to the human

body, it then might be urged, that as the former still produces the same regular effects when it has passed through one body to another, so something similar ought to occur in regard to *mal aria*, if that be the primary source, not only of intermittent and remittent, but of continued typhous fever. That *mal aria*, as a morbid exhalation of the soil, produces intermittent, remittent, and continued typhus, I have abundant facts to shew, which shall be given in detail at a future period; and as I have met with the distinctly remittent and continued form of the disease, in persons who had been, to all appearance, decidedly infected from others labouring under continued typhus, the parallel between small-pox and typhus would still seem to hold good, even under such a point of view. Since my attention, however, was fully awakened to the primary source of typhous fever, the unequivocal cases in which one patient appeared to me, unquestionably, to infect another, have not been very numerous, and if they had, I think it probable that some of them would have put on even the intermittent type, if I might form an opinion from what I have remarked of those cases which primarily arose from the *mal aria* of the soil.

Both the peculiar matter of *mal aria* and the peculiar matter of small-pox produce a greater diversity of symptoms than systematic writers have described, because the effects of both are influenced by circumstances which those writers have not taken into account, and which still afford an ample field for investigation; but I here only wish to reason from the more constant and regular effects of each, as they have been presented to me in this climate, since these effects are the most obvious, and, therefore, the best fitted for the purposes of the present exposition.

The causes of all acute diseases are common or peculiar; and if we accurately trace the effects of those which are peculiar, we may always select and arrange some which constantly arise from each peculiar cause, and which thus enable us to ascertain the existence and operation of that cause with great precision.

From the explanation which I have given of the origin of typhous fever, it is natural to inquire whether or not it be contagious. With respect to this circumstance, I also resolved to be entirely guided by the facts which came before me; for as soon as I satisfactorily discovered that I had formerly fallen into an error respecting the primary source of typhous fever, it became quite necessary to guard myself against that enthusiasm which so often makes converts pass from one extreme to the other. On mature reflection, however, I could not help perceiving, that what I formerly considered as decisive or probable

proofs of the contagious nature of typhus, had not really the force which I then ascribed to them; for example, when I saw one person attacked with typhus who had visited another labouring under that disease, or when I saw person after person attacked in the same house or situation, I imagined that this circumstance formed a strong, nay a decisive evidence, in favour of the disease propagating itself from person to person; but it must be apparent, from what has been said, that this particular circumstance meets with as satisfactory a solution on the principle that the persons thus affected had been, in their turn, exposed to the *mal aria*, or marsh effluvium, by which the first had been affected. Indeed I have every reason to believe, that great numbers are actually affected in this manner who live in the same house or district, as the disease so often commences with the intermittent or remittent form; but, at the same time, it is right to confess that facts have fallen in my way which have led me to conclude, that the disease, under some circumstances, does propagate itself by contagion. Speaking from my own observation, I could not take upon me to say confidently, that the distinctly intermittent or remittent form are contagious; but I have met with cases, where the continued form of the disease, in which the secretions are the foulest, certainly appeared to propagate itself by contagion.

Among others which I could adduce, I will mention one instance for the sake of illustration. A very respectable woman, who performed the office of a nurse to some patients labouring under typhus, was assisting one of them from the night chair, and she became sick at the stomach, and faintish, from the offensive odour of the evacuation which he had just passed from the bowels. From that time she drooped, and a few days afterwards had a severe attack of continued typhus, characterized by its peculiar combination of symptoms. This is a striking instance, and I have met with some others which were equally, or even more striking. The probability is, that its contagious or non-contagious nature is dependent, first upon the quantity, or concentration, of miasm thrown off from the body; and, secondly, upon the closeness or openness of the situation in which the patient may be placed; at least the result of my observations would go to prove that its propagation by contagion, or non-propagation, is almost entirely dependent upon surrounding circumstances.

Several cases have come before me which have appeared to me to identify the typhous fever of this country with the marsh remittent yellow fever of hot countries, where violent disputes have arisen about its nature, some contending that it is, and

others that it is not contagious. But the disputants would do well to view the subject more dispassionately, and to take into consideration the different types which the disease assumes, and, above all, the circumstances which favour or prevent the propagation of a disease by human contagion. In hot countries the secretions of the body are soon dissipated by the surrounding heat, and the modes in which the houses are constructed and ventilated are admirably adapted to prevent the spread of any contagious disease, even the small-pox; whereas, in this country, at least among the poor, their dwellings are so small and confined that they may be considered as nurseries of any contagion which may arise there, while the custom, not observed in hot countries, of having curtains about the beds, is calculated, first to retain, and then to give out, any contagion which might arise from the patient. These and similar circumstances ought all to be taken into account in estimating whether or not the marsh remittent of hot countries be a contagious disease.

There is an opinion very prevalent in this country, that any fever originating from a common cause, such as cold, heat, intemperance, or the like, may become contagious in its progress. This opinion has probably acquired all its force from the prejudice of education, for it has happened in physic, as in other departments of human knowledge, that men believe certain things merely because they have been taught to believe them; and it is too humiliating, in general, to acknowledge that as an error which has been long cherished as a truth. This feeling has greatly tended to impede the progress of my own mind, but I could wish, above all things, to weed out every vestige of prejudice or pride, that I might have no discolouring or distorting medium between me and nature; but that, on the contrary, I might be enabled to see things as they really are, and to investigate them in the spirit of sincerity.

It is truly and beautifully observed, by Dugald Stewart, that the impressions and associations of our earlier life may be likened to the slender threads which fastened Gulliver to the earth; and that they are to be overcome, not by a sudden exertion of intellectual force, but by the gradual effects of good education, in breaking them asunder one by one. In regard to the point in question, that any fever originating from a common cause may become contagious in its progress, I cannot but believe it to be a fallacy resting chiefly on the sanction of speculative authority on the one hand, and passive credulity on the other; at least, I have never seen any fever which originated from a common cause become contagious in its progress.

If we attempt to draw our notions respecting the true diagnostic signs of typhous fever from the great medical sophist of modern times, Dr. Cullen, we shall be led into nothing but error; for his definitions of synocha, typhus, and synochus are, according to my observation, mere metaphysical abstractions, which have no reality in nature. What would seem to be meant by the word synocha is an intense fever, combined with some visceral inflammation; but inflammation did not suit Cullen's arrangement, and therefore the very essential upon which such a fever always depends is omitted in what he has called a definition, but which, in fact, is only a brief and most imperfect enumeration of symptoms. What would seem to be meant by the word typhus, is that combination of symptoms which occurs toward the close of any fever where the brain has suffered much, and where the powers of life are about to give way; but this is not typhous fever, and indeed we find that Cullen's definition does not include one genuine characteristic of that disorder, if the epithet contagious be omitted; and its contagious character is probably dependent upon circumstances which are adverted to before.

The mischief of adhering to Cullen's supposed definition of typhus has not been confined to this, that many men have not known what the genuine indications of typhus are, but an unnecessary alarm has been created, lest any common fever may become typhus in its progress, since Cullen expressly makes typhus to arise out of another disease: but do we ever see figs spring from thistles? or, to speak more closely, do we ever see measles arise out of small-pox or scarlet fever? nay, did any man ever see true typhus propagated from any one of those diseases, even when they were accompanied with what Cullen has vaguely designated typhous, or typhoid fever?

If my observations be correct, it follows that typhous fever originates from one species of what is called *mal aria*, or marsh effluvium. The fact of intermittent, remittent, and continued typhus passing and repassing into each other, proves their common origin; and I infer, that this peculiar miasm is the sole cause of this disease, because I have never seen the combination of symptoms which it produces, in the remittent and continued forms, arise from any other cause. These symptoms I consider as peculiarly characteristic as those which attend small-pox or measles, and I firmly believe, that they arise from as single a cause. Small-pox, measles, and scarlet fever appear in all the districts of London apparently alike; but typhus is most remarkably prevalent, year after year, in particular districts. The cause is, that typhus alone arises, primarily, from a *mal aria*, or marsh

effluvium, which is most abundantly generated in those particular districts, where many, or even most of the poor inhabitants are rendered prone to its influence by a bodily debility, the product of bad food, pernicious habits, defective cleanliness, bad clothing, and the like enervating circumstances.

Whatever weakens the body predisposes it powerfully to typhous fever; and hence, during the prevalence of general distress among the poor, typhous fever will be sure to appear, provided the situation and season be favourable for the generation of *mal aria*, or marsh effluvium. So intimate is the connexion between the state of the atmosphere, and the rise and decline of typhous fever in the infected districts of London, that I have often, with tolerable accuracy, predicted its increase or decrease in those districts; and I am sure that I could, in future, predict this with still greater precision, if I always knew the degrees of predisposition existing there, from physical and moral causes. In the course of some months, I shall have occasion to detail the whole facts in my possession, and then I shall offer what appears to me most interesting, respecting the circumstances under which this peculiar poison is generated.

This view of typhous fever not only leads to some important considerations respecting its prevention, but it is likewise calculated to remove that universal alarm which the unqualified doctrine of contagion always excites. If any man were to ask, why typhous fever prevails so much in some districts of London, and so very rarely appears, in solitary examples, among other districts, he will find a satisfactory answer to that question in the difference of localities; the infected districts being, in general, comparatively low, closely built, badly ventilated, imperfectly drained, and filthy, while the very contrast of this description mostly obtains in those districts which are freest from *mal aria*, and through which, as now constituted, typhous fever never has extensively prevailed, never can extensively prevail.

It has become the custom to establish fever institutions, and this cannot be too much applauded and recommended; for such institutions afford the greatest benefits to the sufferers themselves, and protect the public, to some extent, by removing certain cases which might be propagated by contagion.—But if fever institutions be solely relied upon as preventives of the spread of typhous fever, they will necessarily lead to a very imperfect result, inasmuch as the primary source of the disease would then be disregarded; and it therefore follows, that the most important thing to be performed in the way of prevention, is first, to remove all those circumstances, as far as possibly can be done, which favour the generation of *mal aria*; and, second-

ly, to remove, in like manner, the predisposing causes among the poor, which lay them so open to the influence of this noxious agent, by debilitating their bodies.

The government of this country acts wisely in leaving most public institutions of a benevolent kind to the public; but as typhous fever not only regards the welfare of the individual, but of the community at large, it has a peculiar claim to the attention of the legislature; and I am so satisfied about the primary source of this disease, that I believe, if the legislature were to take up the consideration of the subject, on the grounds above suggested, the prevalence of typhus would be shortly lessened, not only in London, but in Ireland, or in any districts where it is wont to appear in the United Kingdom.

If *mal aria*, or marsh effluvium, be the primary source of typhous fever in London, it is probably the primary source of typhous fever all over the world.

In the present advanced, and still advancing, state of chemical science, it is not, perhaps, hoping too much, that something may be accomplished towards ascertaining the nature of this *mal aria*; at all events, by drawing the attention of scientific men towards it, many facts will be elicited which may prove highly useful, as far as the prevention of typhus is concerned.

Before closing these desultory remarks, I cannot help suggesting to those who may practise where the plague prevails, the propriety of ascertaining whether or not that disease be really a modification of typhous fever. Till the time of Procopius, the word plague seems to have been applied indiscriminately to any febrile disease which happened to be extensively prevalent; but since then, the best authorities seem to have limited the term to that fever in which buboes and carbuncles are apt to appear. Between the most accredited histories which we have of the plague, and many of the symptoms of typhous fever, there is a most remarkable similitude; but it is right in me to state here, that I have never seen, or, it may be, have never noticed, an instance of typhous fever where the glands of the groin were affected, though I have seen several in which the parotid glands were affected, and some in which carbuncles existed. But as I have never been in foreign countries, I can only recommend others to pursue the inquiry here suggested, and would wish it to be pursued strictly through the investigation of facts; for the past annals of physic abundantly show, that the secrets of nature are not to be developed by any ingenious speculations carried on in the closet.

The discovery and communication of truths connected with physic, have been the leading objects of my professional life;

and being now fully persuaded that I formerly committed an error, in supposing human contagion to be the primary source of typhous fever, it becomes a duty in me to acknowledge that error without reservation. A certain degree of warmth, moisture, and the decomposition of vegetable matter have appeared to me essential for the generation of *mal aria*; and its suppression, or diminution, will perhaps be found chiefly to consist in establishing proper drains, in removing putrid accumulations of vegetable matter, in instituting every species of strict cleanliness, and in freely ventilating the habitations of the poor. The preceding view of the origin of typhus, would lead to important considerations in the future construction of the houses of the lower orders, but I shall enter fully into these hereafter; and shall at present only observe, that whenever typhous fever does prevail, it will be important, not only to separate the sick from the healthy, but to remove, if possible, those physical and moral causes, which by debilitating the body, so powerfully predispose it to be acted upon by this noxious miasm.

Southampton Row, Russell Square, May 27, 1822.

London Medical Intelligencer.

Use of Sutures in severely-contused wounds.

MR. YEATMAN in the June number of the *London Med. and Phys. Journal*, offers some remarks, and cases on the bad effects of uniting contused wounds by suture. In the first case, a young healthy man, this practice was followed by great inflammation, and extensive mortification and sloughing. After a long time the patient recovered. In the second case, a robust young man, the wound was of considerable extent on the forearm, and the muscles were excessively torn and injured. Sutures were used along with adhesive slips and bandage, 'The next morning the youth died. On removing the roller and sticking-plaster, the parts were found in a gangrenous state.' In the third case, a man of 45, very robust, of choleric and sanguineous habit, the injury was received on the thigh, by a fall from a height on a ragged piece of timber. The wound was a very bad one, and a flap of integuments raised fairly from the muscles. Ten interrupted sutures were used, along with slips of adhesive straps and a roller, mortification of the flap, and many bad symptoms occurred, and it required very judicious management to save the man's life.—These cases will furnish a very useful caution were, if there can be found any surgeon in America, so exceed-

ingly ignorant of the proper treatment of severely-contused lacerated wounds as the English surgeons were to whom the care of the above cases fell.

On Diabetes. By DR. TROTTER.

THE following cases exhibiting the good effects of *pure magnesia* in diabetes mellitus are taken from the same number with the above.

SINCE I had occasion to address you on the subject of *Diabetes Mellitus*, and the effect of *pure magnesia* in the cure of it, three confirmed cases have come under my observation. The first, in a young man, G. L. æt. 28, who had possessed a fine person, being six feet two inches, and had enjoyed excellent health. The disease began in 1818; and, when he found himself too weak for his employment in a colliery as a driver, he was discharged. At the time he applied to me he was extremely emaciated, and with much difficulty walked to my house. From his appetite being so keen, he scarcely suspected himself labouring under disease; and his father and brother, with whom he lived, complained that he devoured all the food intended for them. His drink, in the day, now amounted to sixteen quarts; and the urine made much about that quantity. The bowels were slow, the skin dry, and the urine sweet as honey.

This poor fellow had only eighteen-pence a week for his parish allowance, and I endeavoured, by representing his case, to get it increased; but the overseer would only consent to add a single shilling; so that the medicine which I wished him to pursue could not be tried. I then made his case known to one of the coal-owners, that he might be received into the Infirmary; but he died before this could be accomplished.

2d.—The next case had a more fortunate issue. J. H. aged 50, a married woman, applied to me in November 1821. She was tormented with thirst; drank eight quarts of water, and made eight quarts of urine, in the day, of a peculiar smell, which grew frothy in a short time, and was quite like sugar to the taste. She was losing flesh, though she had a great appetite, and found herself growing weak. These complaints began about six months ago. She was ordered to take 3jss or magnesia in twenty-four hours, which quickly opened her bowels; and the thirst ceased on the third evening; the water, at the same time, changed its taste and appearance, and the appetite became natural. The medicine was continued a week or ten days, and

her health seemed quite restored; though her relatives had, at first, looked upon her case as deplorable.

3.—The third case was that of a young woman of twenty-two, a servant. The disease commenced two years ago. She came to me in January last, and was considerably reduced. Having no relations, she was compelled to remain at service; but had now a humane mistress, who was kind to her, and, by a little charity from her physician, she was enabled to buy her medicine. The drink was about eight quarts in twenty-four hours; the urine rather more, sweet as honey, and of a frothy quality. The appetite voracious, and the bowels slow; the skin dry, and the thirst constant, night and day. The menses disappeared seven months ago. The magnesia, to the amount of two drachms in the day, was immediately begun; and on the second day the thirst declined, and next day the urine fell to three quarts, and nearly natural in taste and smell. The appetite also was less keen, and the bowels profusely loose. In a week or two she found her strength greatly improved, and can now go through her work without feeling fatigued. There is, as yet, no appearance of the menses: indeed, a complaint of such a nature, continuing for so long a time, could not fail to make serious inroads upon the constitution; and, when it arrives at a certain point, there can be no recovery. The quantity of urine is now two pints, and sufficiently saline; but, though diabetes may not return, there is still some doubt of perfect health.

I thought it superfluous to make any experiments on the blood and urine in any of these cases, as their appearance and nature were sufficiently ascertained before.

The diet, in all these persons, was the usual fare of labouring people; and the effect of the medicine seemed not to vary by any accidental change. That a diet entirely of animal matter should afford the saccharine quality to the urine, as in the first case transmitted to you before, would seem to contradict the experience of Dr. ROLLO on this subject. I think, however, that eminent physician viewed the pathology of diabetes too much as a chemical doctrine. The omnipotence of a living principle in the system, is not to be denied; and, whatever processes resembling chemical combinations may be produced in the body, they can only be vicarious of this administering power. The purgative effect of magnesia, as exhibited in these patients, plainly shows a predominant acidity in the stomach and bowels: this is, probably, the *saccholactic* acid, and evolved in the process of deranged digestion. Many of the attendant

symptoms can only be considered as sympathetic with this extraordinary condition of the digestive powers.

These five cases of diabetes are the proportion that I have met with in *ten thousand seven hundred persons* of the labouring class, to whom I have given medical advice since 1802; and many of them have come from very remote parts of this and the neighbouring counties. I have known about twenty instances of this disease in all; but, from all the circumstances of sex, age, temperament, season, situation, employment, habits of life, &c. I cannot form any peculiar character of predisposition that gives birth to its singular train of symptoms.

In my former communication, it was thought necessary to warn physicians against the adulterations of *magnesia calcinata*. What was employed so successfully by myself is the preparation of a London chemist. The purity is to be judged by the directions given by HENRY to his own preparation, and I would take the article of that scientific chemist as a standard: it is only to be lamented that his price puts it beyond the reach of the poor patient. But, as pure *magnesia* is of such great value in the treatment of all diseases of what I designate by the name of *nervous temperament*, forming by far the largest class of modern ailments, I would recommend to the Royal College to petition Parliament for a full remuneration to Dr. Henry for his method of preparation, that the value of the medicine may be more generally known. I conceive the president and fellows of the Royal College of Physicians to be the proper organ for such an application.

The simplicity of the practice here announced in the treatment of diabetes, will be its recommendation to the ingenuous and disinterested part of the profession; and, to the confidence of their approbation, I leave the future trials of the medicine.

Newcastle; May 4, 1822.

Lon. Med. and Phys. Journal.

On the Use of the dilute Sulphuric Acid in Cutaneous Affections.
By J. FOSBROKE.

My experiments with the dilute sulphuric acid, in *large doses*, have been continued with success.—A lady, who had been long subject to very distressing chronic disorder of the digestive organs, attended with temporary congestions of the spleen, became affected with the *lichen agrius* on the back of her hands and inside of her thighs. It proved very obstinate in its resistance

to several topical plans of treatment. I prescribed the acidum sulphuricum dilutum in a decoction of the dermis of the elm, and of the wood of the garden nightshade (*solanum dulcamara*;) using at the same time, as a wash, a decoction of the deadly nightshade (*atropa belladonna*.) She literally told me that irritation was immediately 'deadened.' The wash stimulated the diseased surface very much. It was applied previously to the use of the acid, and continued afterwards. The acid can rarely be taken, 'in spite of the teeth,' long; but the inconvenience may be obviated by using a quill as a syphon, projecting beyond the teeth towards the fauces. Dr. Willan has recommended the acid in infusion of roses, with bark. in this disease; but his dose is not large, on which all specific effect depends.

Mr. Turner, a veterinary surgeon, in large practice at Wotton-under-Edge, Gloucestershire, has communicated to me the two following cases of the use of dilute sulphuric acid in skin diseases.—A man suffered severely in consequence of taking violent exercise, by which he became heated, and perniciously drinking cold water immediately afterwards. Small blotches, red, and level with the cuticle, appeared spontaneously. He took the dilute sulphuric acid, beginning with six or seven drops, and continued it for three months; during six weeks of which time the dose consisted of 160 gtt. of the acid undiluted, taken more than once a-day. It effected a complete recovery of his general health, as well as local disorder.

A man who had had, during a long time, swollen extremities and erratic rheumatism, especially affecting the bronchia, recovered by the use of this acid in large doses. He now enjoys robust strength; and his respiration is so much amended, that his capability for psalm-singing, to which he was much addicted, is in higher perfection than it has been for many years past.

I conceive that our practice must err, if we do not regard, with restorative intentions, the condition of the grand system of secretion; and, though I greatly rely upon the alterative influence of sulphuric acid alone, it may be well, in most cases, to treat the liver as an agent ever to be suspected in disordered cutaneous actions. For this, let there be given Plummer's pill, in purgative doses; or the pil. cambog. comp. ʒij., pulv. antim. ʒj. fiant. pil. l. xii., a medicine of no mean powers. At the same time, by this plan we not only confine our curative intentions to the disease apparent, but add into our general schemes of treatment the original disorder of the internal organ or organs; for all that I have seen concurs, for the most part, with the maxims of Dr. Jenner, who, in an ingenious unpublished treatise on the pathology of the skin, announces the probability that 'the design of nature, in making eruptions on the external surface, is

to protect vital organs, by transferring diseased action to parts not vital."

P.S.—I have, since the publication of my former paper, been able to retrace the literary information which suggested to me the use of dilute sulphuric acid in carbuncle. It occurs in the Edinburgh Medical commentaries. The quotation may gratify those who may have never read them :

"We are informed, by Dr. Gahn, that the vitriolic acid has of late been much, and successfully, employed, in some places of Germany, in the cure of the itch. It was first used for that purpose in the Prussian army, in the year 1756, by Dr. Cothenius, first physician in Prussia. This practice was afterwards described in a treatise, entitled "*Dissertatio de Olei Vitrioli usu in quibusdam Scabiei speciebus*," written by Dr. Helmich, and printed at Hale in 1762. It was also described by Dr. Baldinger, in his *Treatise on the Diseases of the Army*, which is written in the German language. Dr. Schroeder, professor of Physic at Gottingen, informed Dr. Gahn that he had frequently employed it in practice ; and that he never failed to cure the itch by means of it, in fourteen days at farthest."*

Dr. Duncan, senior, also observes,† "I have thoughts of putting this patient on the use of the vitriolic acid ; a medicine which has of late been particularly recommended for the cure of itch : and I am told that the efficacy of it has been fully confirmed, both in cases of scabies sicca and humida, by the able physician Dr. Baldinger, of Gottingen. And if, after the failure of the present plan, it shall succeed in the instance before us, I shall have a higher opinion of it than ever. And, if the vitriolic acid fail from internal use, I have thoughts of trying it externally ; for, when conjoined with hog's lard, it forms a very elegant ointment."

Sydenham, almost the most delightful, as well as correct, of our medical classical writers, speaks with great warmth of the efficacy of sulphuric acid in checking the increase and destructive progress of confluent small-pox pustules, and, consequently, of the fever which they excite.

The external application of the deadly nightshade was formerly tried, and well spoken of, by Dr. Graham.‡ who used it in cases of ill-conditioned tumors and ulcers. Of this I was not aware when my own experiment was made.

(*Edinburgh Medical Journal*.)

* *Edinburgh Medical Commentaries*, pp. 103-104.

† DR. ANDREW DUNCAN'S *Medical Cases*, vol. i. p. 48.

‡ *Edinburgh Medical Commentaries*, vol. i. p. 419.

Memoire sur l'Auscultation Appliquée a l'etude de la Grossesse; ou recherches sur deux nouveaux signes propres a faire connaitre plusieurs circonstances de l'etat de Gestation. Lu à l'Academie Royale de Medicin dans sa seance generale du 26 Decembre, 1821. Par M. J. A. LEJUMEAU DE KERGARADec, &c. Paris. 8vo. 1822.

The following is extracted from a notice of the above work in the Lon. Med. and Phys. Journal.

M. DE KERGARADec is not a practitioner in midwifery; but he comes forward with a twofold discovery, to which we confess he attaches more importance than the thing itself seems to deserve, supposing for a moment, that the discovery itself proves not to be a delusion.

Accident led M. Kergaradec to ascertain that by employing the means so successfully adopted by M. Laennec, with regard to the exploration of pectoral diseases, not only the pulsations of the heart of the foetus in utero may be distinctly heard at any time between the period of quickening and the end of gestation; but the spot on which the placenta is implanted may be detected from similar perceptions of the vibration of the umbilical vessels, and of the wheezing noise made by the blood circulating through that spongy body.

Several examples are adduced in which these points were decidedly ascertained by this method in the presence of, or by, indeed, some very eminent practitioners, among whom was Laennec himself, who vouchsafes for the accuracy of M. Kergaradec's assertions. And the reporter to the Royal Academy of Medicine, to whom the consideration of the memoir was referred, having repeated the author's experiments and observations, agrees in drawing from them the same conclusions.

The operation is performed either by applying the ear to different parts of the abdomen, or by means of Laennec's instrument, which latter mode must be decidedly preferable on many accounts.

The practical inferences from this discovery are enumerated by the author in the following order, though with more development than we can afford space to give them.

1. It furnishes us with an additional character in the diagnosis of gestation; and is, therefore, so far likely to be useful in certain cases of female disease, difficult labour, or of judicial medicine.

2. From the number and strength of the pulsations, it will enable us to judge of the strength and health of the foetus.

3. If, in the case of twins, the pulsations should, by future observations, be found to be double, the birth of twins will be easily predicted.

4. The precise knowledge of the spot on which the placenta is implanted may, in some instances, be found of considerable utility, particularly in the case of performing the Cesarean operation.

5. Auscultation will also be of service in indicating the existence of extra-uterine pregnancies. For when the pulsations belonging to a fœtus are heard in a part of the abdomen where they are not usually found, and an examination, *per vaginam*, has enabled us to ascertain the non-development of the womb, the conclusion of an extra-uterine foetation will not be far removed from truth.

It should be observed, that M. MAIOR, a surgeon at Geneva, had, long before M. Kergaradec, mentioned the possibility of ascertaining whether a fœtus in utero in a state of total rest, was alive or dead, by applying the ear to the abdomen, as, in the former case, the pulsation of its heart would be distinctly heard by the practitioner.

Having thus brought before our readers this new source of research, on which great noise is now made in Paris, we leave it to them either to laugh at it, or to receive it with proportionate respect.

Composition of Oxalic Acid,

M. DOBEREINER stated, about five years since, that oxalic acid contains no hydrogen, and that it is formed of equal volumes of oxide of carbon and carbonic acid, combined with a proportion of water. He considered this water as essential to its existence, and that, if it were taken away, the acid would be decomposed. Reflecting afterwards upon the great affinity which fuming sulphuric acid has for water, he performed the following experiment, which he has described in a pamphlet upon pneumatic chemistry :—

Five grains of dried oxalic acid, but still containing a quantity of water, were mixed with 200 grains of fuming sulphuric acid, in an apparatus for receiving gases over mercury. The oxalic acid gradually and totally disappeared, and produced 9.4 cubic inches of gas; the sulphuric acid became less fuming.

The gases, washed with ammonia, were reduced to 4.7 cubic inches, and consequently contained 4.7 cubic inches of carbonic acid. The gas which the ammonia did not absorb was oxide of carbon; for it burnt with a blue flame, and, being detonated in

Volta's eudiometer with half its volume of oxygen, it produced an equal volume of the carbonic acid, without any appearance of water: the weight of carbonic acid, added to that of the oxide of carbon, represents exactly that of the anhydrous oxalic acid; and M. Dobereiner concludes that this acid contained no hydrogen; for, if it contained any, sulphurous acid should be formed; or, if the hydrogen was combined with a portion of oxygen of the oxalic acid, the carbonic gas and the oxide of carbon would be found in different proportions.

In this experiment, the sulphuric acid combines only with the water, and, in order that it may succeed, it is requisite that the sulphuric acid should be fuming, like that of Nordhassen: for common acid does not decompose oxalic acid.—*Ann. de Chimie et Phys.* lb.

Case of Fracture of the Patella, &c. By Mr. GEORGE FIELDING.

"Mrs. H. æt. 35, a tall well proportioned woman, on the 13th Nov. 1820, lifting a heavy basket while in the erect position—her left knee suddenly gave way and she fell to the ground. Upon visiting her immediately afterwards, it was evident that the left Patella was fractured transversely near its middle. The ends of the fractured bone were above an inch asunder. She was put to bed upon a hair mattress—the trunk and shoulders were well elevated. When the affected limb was placed horizontally, the ends of the fractured Patella remained about the same distance from each other as before.* The heel was now gradually elevated by my son, who was my assistant at the time, until the fractured portions were brought into close apposition. In this situation they were secured by straps of adhesive plaster put three parts round the limb, above and below the Patella, by bandage passed *moderately tight* above and below the knee in the ordinary way. A splint about twelve inches long was placed under the ham and slightly secured by bandage. The elevated position of the heel was strictly preserved—the whole limb was thus placed upon an inclined plane from the heel to the hip—the heel being the highest. The Patella being left nearly uncovered, it was easy now to feel that the fractured bone was in exact contact. The knee was kept moist by a cold lotion. No great pain and very little swelling ensued. The chief inconvenience which the patient experienced was from the stretching of the flexor muscles, she was however perfectly manageable and preserved her position with the utmost care, from an apprehen-

* We tried the position recommended by Professor Sheldon, but did not succeed in bringing the fractured bone into contact by that plan.

sion that eventual lameness might ensue from the injury, if by any unguarded motion the fractured bone should be displaced, and the cure rendered imperfect.

"At the end of a fortnight the bandages were replaced. It was then clear, that the fractured ends of the bone were in contact, from the tumefaction upon the Patella, and from the exact situation of the fracture being no longer distinguishable.

"On removing the bandages at the end of a month, the bone was found to be firmly united, without any intervening ligament whatever.—Only a small hard line a little elevated was discoverable in the course of the fracture. The heel was now brought down to a horizontal position—the shoulders were lowered—the splint and a bandage loosely applied were kept on at the request of the patient a week longer—and gentle passive motion employed every day: This woman left her room before the end of the sixth week. Diligent friction and frequent passive motion of the joint were necessary for some time. The flexibility of the joint and the power of the limb were gradually restored, and the patient now enjoys the use of the limb in every respect as perfectly as before the accident."

Medico-Chirurgical Review.

Puncturing Anasarca Limbs.

WE confess that we were not a little amused by this elaborate effusion of 'a member of the Royal College of Surgeons,' who, with some naiveté, believes that the measure here recommended will 'prove itself to be of far greater utility in evacuating the fluid diffused through the cellular tissue of the body, *than any eulogium* he can bestow in favour of its restoration.' If indeed it have not infinitely more effect than a *eulogium* in removing dropsical fluids, we fear its restoration is hopeless! The *facts* detailed in support of the measure are in the form of a *supposition*. 'Suppose I were called to A. B. &c.' we shall not therefore analyse this supposed case of 'anasarca of the lower half of the body, in consequence of *palpitation* of the heart,' because we believe that no such case ever existed. There is a passage at page 863, which augurs but little of the great success attending this puncturing of anasarcaous legs. 'It has *often*,' says he, 'struck me with utter surprise at finding patients dead a few days after this operation was resorted to—patients who had not the appearance of so immediately dying, at the time it was performed.' This led our author 'into many *endless* difficulties,' which, however, in the next line proved *not* to be endless, for, like a

ship coming to an anchor, he dexterously 'extricated himself by bringing up to the following conclusions.' These conclusions were, that the said sudden deaths 'were attributable to the removal of the accumulation of the lymph, which, in the relaxed state of the system at this time, supported the circulation by means of its pressure, &c.' For our own parts we would humbly hint that this honest gentleman need not accuse himself of the death of these patients for not having applied a bandage after the scarifications. The causes that produced the oedema of the lower extremities were far more likely to induce sudden death than the scarifications. After puncturing and bandaging, he knows of no medicine better to make a trial of 'than fl. 3j. of the tincture of digitalis, in fl. 3ij. of the spiritus ætheris nitrici.' If our author means this for one dose, there is *rather* too much of the digitalis. If he means the usual dose of digitalis to be given from the above mixture, then the quantity of spir. ætheris nitrici in each dose will avail nothing. We are sorry to see papers of the above description so carelessly sent forth to the world. Such papers deserve gentle censure.

Med. Chirur. Rev. and Journal,

INTELLIGENCE.

DR. BIGELOW'S MATERIA MEDICA AND SEQUEL TO THE PHARMACOPŒIA.

MR. CHARLES EWER of Boston has just published a work in one volume 8vo. intitled a treatise on the *Materia Medica*, intended as a Sequel to the *Pharmacopœia* of the United States, &c. By Jacob Bigelow, M.D. Author of *American Medical Botany*, &c.—As the nature of this work may be learned from the Preface, we insert that portion of it at length.

'The publication of the *American Pharmacopœia* may be regarded as an event highly favourable to the interests of medicine in the United States. What experience has abundantly proved, in regard to similar publications in other countries, is beginning to be realized in this. The adoption of a common language in an important department of medical science, and the limitation of names, previously indefinite, to specific and determinate objects, confer a security on the practice of medicine, which must be prized by all, who have at heart the good of the profession and of the community.

A pharmacopœia, however, is in its nature circumscribed and technical. Its office extends no further than to indicate, definitively,

the articles to be employed in medicine, and the preparations to be formed from them. It leaves an interesting field to be occupied by the description of those articles, the examination of the sources from which they are derived, the properties by which they are known, the objects which they fulfil in practice, and the manner in which they are to be applied. Believing that this field might be entered on with some prospect of usefulness, and that a work embracing these topics is rendered in a manner necessary, both by the peculiarities of the *Pharmacopœia* and by the imperfect apprehension, which has occasionally prevailed in regard to some of its contents; I have been induced to prepare and submit to the public the present supplementary volume. I have styled it a treatise on the *Materia Medica*, because it was found necessary to embrace within its compass some account of whatever is usually found in books of a similar denomination.

The *Materia Medica*, like other branches of natural science, undergoes certain changes, from time to time, sufficient in importance to render new treatises continually necessary. These changes take place partly in the nature of medicines themselves, and partly in their application to disease. The latter, indeed, constitutes no small part of the progress of medical science in its largest sense. There are, besides, in every country peculiarities in the sources from which medicines are obtained, the actual state in which they exist, and the mode in which they are applied to use. These circumstances give to new and local works an adventitious interest over that possessed by foreign ones, even of greater merit.

In the present publication, I have considered the subjects of the American *Pharmacopœia* with reference to their *origin*, *qualities*, *medical uses*, and *forms of exhibition*. And in those articles, on which it was thought necessary to dilate most largely, these subjects have been presented under distinct heads.

The *ORIGIN* of medicines ought so far to be kept in view, that the profession may always know what changes are taking place in the sources, from which substances are derived, and what influence such changes may exert on the character of any part of the *Materia Medica*. Not only does chemistry introduce continual changes in the manufacture of artificial medicines; but, in natural substances, agriculture and commerce may at all times produce such revolutions, as entirely to shift our sources of supply, and materially to influence the character of our drugs. The spirit of commercial profit, to which we are indebted for our foreign articles, naturally seeks for them where they can be obtained at the cheapest rate. Articles of a new or undecided character will often have a commercial preference, because they bear an inferior price. And there is perhaps no branch of commerce, in which names are substituted for realities with more success than in the commerce of drugs. We find that the present sources, and sometimes the character, of very important medicines are essentially different from what they are represented

in the dispensatories and similar works written twenty or thirty years ago; yet the names and descriptions of such dispensatories are still applied to them. For example, we have few druggists' stores, in which the Socotrine aloes may not *nominally* be obtained; yet it is believed that very little of the aloes now consumed in the United States ever comes from the island of Socotora. Alexandrian senna is still imported in small quantities; but in common use with us, it is nearly superseded by the senna of the East Indies. These changes are of no importance, so long as the article substituted is equal in activity to that of which it takes the place. But we have other changes and substitutions, which cannot be viewed as unimportant in their bearings upon medical practice. The genuine African Columbo has, for some years past, been nearly excluded from our shops by an article brought in large quantities from New Orleans, possessing about half the bitterness of real columbo, and apparently the root of *Fraseria Walteri*. It is just beginning to be discovered, that the real *Peruvian bark* is a scarce article in the markets of the United States, and that its place is taken by a cheaper bark, of a different character, brought from Carthagera and Carracas, under the name of *yellow bark*, and which there are reasons for supposing to belong to a species of *Portlandia*. Our importing merchants and druggists inform me, that this Carthagera bark, under the name of yellow Peruvian bark, constitutes, probably, nine tenths of the reputed *Cinchona* now consumed in the United States, its wholesale price being to that of real bark of Peru as about one to fifteen.

The adulteration of medicines is so easily, if not frequently, effected, that it is not always safe to buy large quantities of any medicinal substance in powder. In Gray's Supplement to the *Pharmacopœias* may be seen half a dozen recipes for a '*Pulvis corticis Peruviani factitius*,' one of which consists of Peruvian bark, mahogany sawdust and oak sawdust, ground together. In the same work is an *artificial Cayenne pepper*, which it is conscientiously recommended to colour with *vermilion*, instead of *red lead* which last is '*injurious*.' In this city the occupant of a windmill was lately indicted in one of our courts, for grinding gypsum into *cream of tartar*. Dr. Paris mentions a fire in London occasioned by the owner of certain premises being employed in *making balsam of Copaiba*.

The misapplication of names is frequently, even in articles of small consumption, a source of important error. I have seen the *Hyoscyamus niger* offered for sale in this city under the name of *blessed thistle*, a harmless plant, still retained by the dispensatories. From the influence of English names, we very often find *Carthamus* substituted for *Crocus*, *Celastrus scandens* for *Solanum dulcamara*, and the latter for *Atropa belladonna*, &c.

The physical QUALITIES of medicinal substances are important to be known, since they not only enable us to distinguish one from another, but also furnish us useful guides in their preservation and

exhibition. Among these, the *solubility* of medicines is a subject, the knowledge of which is continually required in practice. The composition and chemical relations of bodies are also important to be known; though probably these are of less practical consequence in organized, than in unorganized substances. Vegetable chemistry has of late years been cultivated with a zeal, which bids fair to bring us to the conclusion, that there are as many distinct chemical substances, or proximate principles, as there are species of plants and probably a great many more. Our former classes of vegetable principles are all subdivided; gums and mucilages of different plants are found to be unlike each other; resins have their peculiarities, according to the source from which they are derived; volatile oils differ in colour, taste, and congealing points; extracts, though attempts have been made to class them in groups, are seldom found two alike; and lastly, almost every active vegetable, which has been examined for the purpose, has furnished forth its particular characteristic alkali. When we reflect, further, that every plant contains not only one, but several chemical constituents; that these are changing at different periods of its growth, so that what is acid to-day is sugar to-morrow; that the same rhubarb and cinchona furnish different results under the hands of the most able chemists; we are compelled to conclude, that, however interesting in a speculative point of view, may be the minute chemistry of vegetables, yet its practical utility is seldom likely to extend beyond those results, which are sufficiently general to be uniform, permanent, and of easy application.

An exception will possibly be found in the *vegetable alkalis*, which have lately been developed in such numbers from different plants. They are undoubtedly an interesting class of bodies, since they appear, as far as experiments have been tried, to contain in a concentrated form, the physiological and therapeutic energy of the plants in which they reside. Yet it may be justly doubted whether they will ever supersede those plants in practical use, since their formation is tedious and expensive, and a given amount of an alkali, when procured is seldom equal in activity to the whole substance, which was sacrificed to obtain it*.

Under the head of *Uses* I have considered the physiological influence of medicines, and their application to disease. This highly important subject has been dilated on as far as was deemed consistent with the limits of a work, which must embrace the other topics of the *Materia Medica*.

The mode of *Exhibition* of medicines is a point essential to the success of their operation. Not only the dose and frequency of repetition are of primary importance; but the nature of the vehicle, and the circumstances of combination, occasionally exert a material influence on the result of their employment. This subject has been

* See an interesting paper on the vegetable alkalis in the *Edinburgh Medical and Surgical Journal* for Jan. 1, 1822.

largely discussed by Fordyce, and lately by Dr. Paris. It is generally admitted by practitioners, that similar operative medicines increase the activity of each other, and that a greater effect is obtained from a compound emetic or cathartic, than from a proportionate weight of one of its ingredients. The inconveniences of medicines are likewise often obviated by combination. Thus griping and stranguery are prevented by aromatics on the one hand, and demulcents on the other. Where substances of an opposite nature are combined, new actions sometimes grow out of their modified energies as in the well known sudorific powder of ipecac. and opium. Nevertheless it must be remembered, that useful combinations seldom need embrace more than two or three active articles, and that one of the greatest modern improvements is in the simplification of medical prescriptions.

The chemical relations of bodies should always be considered, not only in the composition of medicines, but in their simultaneous exhibition. Chemical actions may defeat the intention of the practitioner by rendering his medicines inert, or they may thwart him by developing active powers of an opposite nature from his wishes. Thus, if to a febrile patient be given one day an emetic of tartarized antimony, and on the next a cooling draught of liquid acetate of ammonia; a little soda or salt of tartar may perhaps prevent our emetic from operating, and convert our refrigerant liquid into caustic ammonia. It is on this account necessary, that we should guard against such combinations as are known to neutralize, *in the stomach*, the energies of active medicines, or to produce results of a nature different from our intentions. But, on the other hand, it is not essential that we carry our chemical scruples so far as to consider all substances incompatible, which produce chemical union or disunion, out of the body, and occasion a precipitate or a change of colour. If chemistry be allowed to acquire this ascendancy, it will encumber the practice of medicine with an insufferable load of clogs and difficulties, and surround our commonest medicines with a wall of incompatibles. We should not be able to prescribe the Peruvian bark with chalybeates, lest it should turn them into ink, nor with animal food, lest tannin and gelatin should conspire against us and fill the stomach with leather. It is important to bear in mind that the digestive organs have a material controul over the force of chemical agents; that while they promote some combinations, they prevent others; that they separate elements, which have strong mutual attractions, and dissolve bodies, which are insoluble in common menstrua. I believe that the incompatible characters given to some of our common medicines in books, has been deduced from chemical experiments more than from medical trials. I have seldom been able to prevent the operation of a common dose of tartarized antimony by giving Cinchona either with, or after it although I have made various trials with different varieties of bark for this purpose.

In the arrangement of subjects in the present work, I have adopted the alphabetical order as the most convenient for reference, rather than the pharmaceutical division of simples from compounds,

or the more common arrangement by classes, adopted in various works on the *Materia Medica*. The alphabetical order enables us to concentrate in one view all that is said on a medicine and its principal preparations.

In regard to the *Pharmacopœia* itself, we may indulge a hope, that after passing through an ordeal certainly not of the most lenient kind, it is at length established on a basis of permanent utility. Its character has been sufficiently discussed in the journals of the day; and the reader is particularly referred to the Reviews of it, which have appeared in the *American Medical Recorder* for July, 1821, and the *Philadelphia Journal of Medical and Physical Sciences* for August, 1821, and a Reply to those reviews in the *American Medical Recorder* for October, 1821. A more deliberate examination, made since the publications alluded to, has satisfied me that this work merited a more able defence, and that many of the objections, which in the haste of the moment were passed by without notice, were really futile and ungrounded. It is very creditable to the Convention, who framed this work, that under the disadvantages attending their short period of co-operation, they should have produced a standard of pharmacy so well adapted to the wants of the medical community in our country, and possessing on the whole so few defects. A list of *Corrigenda*, published since the *Pharmacopœia*, has done justice to the Convention in restoring, agreeably to their designs, some slight portions of the work, which, during preparation for the press, appear to have been erroneously construed or transcribed.

It is unnecessary to repeat the opinions, which I have formerly expressed in the Reply above alluded to, on the general merits of the *Pharmacopœia*. When we consider that a work of this kind, necessary as it is, can never emanate in this country from any but a representative body of physicians, and must always be compiled under great disadvantages; it is fair to predict, that no future publication of the sort among us, should such be undertaken, will ever be likely to surpass the present in general fitness and accuracy, or be more deserving the support of the wise and disinterested portion of our profession.

Under these circumstances, it is greatly to be regretted, that a spirit of loose and unreflecting criticism should be still indulged in the pages of any work possessing so much authority as to give weight to its strictures among readers, who are not accustomed to examine and appreciate for themselves. I allude here to the last edition of Professor Coxe's *American Dispensatory*, in which, while the author so far admits the authority of the *Pharmacopœia* as to new model his whole book upon its basis, he needlessly digresses from the path of his own subjects, to bestow undeserved censures on the national work. I am not willing to encumber the pages of the present volume by making it a vehicle for medical controversy. But duty on this occasion obliges me to state, that the criticisms on the Ameri-

can Pharmacopœia, contained in the last edition of Professor Coxe's Dispensatory, under the following heads, viz. Acetum scillæ—Alcohol—Spiritus ætheris sulphurici—Alcohol ammoniatum—Antimonium tartarizatum—Arum Americanum—Aqua calcis—Decoctum scillæ—Dracontium—Elixerium—Hydrargyri oxidum cinereum—Infusum cinchonæ cum aqua calcis, &c.—Mistura zinci sulphatis—Phytolacca—Pterocarpus—Succinum—Syropus aurantii corticis—Tinctura cinchonæ composita—Unguentum simplex;—are all of them *erroneous* and *unfounded*; and this I am perfectly ready to show in any medical journal, in which the friends of that gentleman may require it.

The present work is offered to the public as a humble attempt to extend the usefulness of the Pharmacopœia, by a commentary on the design, character and application to use, of its various contents. It is not to be supposed that an individual can be conversant with the views of all who co-operated in the Pharmacopœia; nor does the present publication possess any claims to the character of an official production. It is no more than a brief statement of my own information and opinions on the subjects of which it treats. The great number of these subjects, and the limits which I had prescribed to myself at setting out, have rendered it impossible to bestow on all of them the same attention, which the more interesting parts have received. Of the numerous indigenous articles, I have given a condensed account, and must refer for more extended information to my own work, the American Medical Botany, and to a work on the native plants of the Pharmacopœia, which Dr. Ives, at the request of the Convention, proposes to publish.

The present volume is so far original as that, with small exceptions, it has been written out in my own language, and contains my individual views and observations. In those particulars, with which I am not experimentally conversant, I have endeavoured to draw from sources of authority and of modern date. It has not been thought necessary, in all cases, to point out these sources; for a work which is intended to compress in a short space a multitude of separate and often minute facts, would be rendered cumbersome by such reference. As to those subjects, upon which chemists and physicians still disagree, and of which the science of Materia Medica furnishes not a few; if in any case I have been drawn into error, I shall be consoled by the hope, which belongs also to others who tread the same path, that time and the progressive developement of knowledge, may promote the improvement both of authors and of their works.

THE STATUTES OF THE UNIVERSITY IN CAMBRIDGE, RELATING
TO THE DEGREE OF DOCTOR OF MEDICINE.

I.—The Faculty of Medicine of this University shall consist of the President, and of the Professors and Lecturers authoriz-

ed to give instruction to the medical students. This faculty shall always have a Dean elected by themselves, for such periods as they may think proper, and may also adopt rules for their own government, provided that the same do not, in any respect, contravene the laws of the University.

II.—Students of medicine, designing to attend the medical lectures, or any of them, shall be matriculated in this University, by entering their names with the Dean of the faculty of medicine, to be enrolled by him; and by signing an obligation to submit to the laws of the University, and to the direction of the faculty of medicine.

III.—There shall be four meetings holden in this University annually, by the faculty of medicine, for the purpose of examining candidates for the degree of doctor of medicine. Two of these meetings shall be for private examinations, and shall be holden in the Massachusetts Medical College in Boston; and two of them shall be for public examinations, and shall be holden in some one of the halls of the University in Cambridge. Three members of the faculty at least shall be present at every examination. The first meeting for private examinations in every year shall be holden on the day, next succeeding that on which the winter courses of medical lectures shall terminate, at ten o'clock A. M. The second meeting for private examinations shall be holden on the Monday next but one preceding the day of the annual commencement in the University, at ten o'clock A. M. In extraordinary cases the faculty may hold meetings for private examinations at other periods. The meetings for public examinations shall be holden on such days as the President may appoint, provided that the same shall take place within one week after the termination of the stated annual meetings for private examinations respectively. All the meetings described in this statute may be continued by adjournment. The meetings for the public examinations shall be open to the Governors and instructors of the University, to the fellows of the Massachusetts Medical Society, and to such other respectable persons as may choose to attend them.

IV.—Candidates for the degree of Doctor of medicine must comply with the following conditions, before being admitted to private examinations, viz :

1.—They shall have attended two courses of the lectures delivered at the Massachusetts Medical College on each of the following subjects, viz :

Anatomy and Surgery—Chemistry—and the Theory and Practice of Physic.

2. They shall have employed three years in their professional studies, under the direction of a regular practitioner of medicine.

3. Those, who have not received an University education, shall satisfy the faculty of medicine in respect to their knowledge of the Latin language and experimental philosophy.

4. Every candidate, intending to offer himself for private examination shall, three weeks previously, give notice of his intention to the Dean of the faculty, and shall at the same time deliver, or transmit to the Dean a dissertation, written by himself, on some subject connected with medicine. Every dissertation shall be submitted, by the Dean, to the examination of the faculty in the mode which they shall point out.

V.—At the meetings for private examinations, the faculty shall examine all those candidates, who shall present themselves after having complied with the conditions enumerated in the fourth of these statutes, upon the following branches of medical science, viz. ANATOMY, PHYSIOLOGY, CHEMISTRY, MATERIA MEDICA, PHARMACY, MIDWIFERY, SURGERY, and THE THEORY AND PRACTICE OF MEDICINE. At these meetings every candidate shall be examined separately, and the decision of the faculty in respect to each, shall be made and declared to him immediately after the examination has closed. The decision in respect to each candidate shall be determined by the votes of the major part of the members of the faculty, present at the examination of the same; and this decision, if favourable to the candidate, shall be recorded by the Dean. In the decisions to be made at these meetings, regard shall be had to the dissertations, as well as to the examinations.

VI.—Those candidates, who have been approved according to the fifth of these statutes, may present themselves at the public examination, next ensuing after such approbation. Each candidate, so presenting himself, shall then read and defend, or be examined upon the dissertation, which he shall have previously submitted to the faculty. At the close of each public examination, the faculty shall decide, in respect to each candidate, whether he shall be recommended as worthy of the degree for which he has applied. The decision of the faculty in respect to all those candidates, whom they do so recommend, shall be recorded by the Dean and shall by him be certified to the President, to be laid before the SENATUS ACADEMICUS. The candidates will learn the decisions in respect to them by application to the President.

VII.—Those candidates, who have received from the *Senatus Academicus* the final approbation, will be directed by the Presi-

dent to appear at Cambridge, at such time as he may appoint, and he will then admit each of them, with the accustomed solemnities, to the degree of doctor of medicine.

VIII.—By a vote of the Corporation of the University passed June 25, 1819.

Candidates for the degree of doctor of medicine before being admitted to private examinations, must have attended two courses of lectures in this University on *Materia Medica* and on Midwifery.

JOHN T. KIRKLAND, *President*.

At a meeting of the Faculty of Medicine of Harvard University, August 15, 1821.

Voted, That hereafter, the dissertations of candidates for examination in winter, shall be delivered on or before the first day of January; and that the dissertations of candidates for examination in summer, shall be delivered on or before the first day of July; and that no excuse will be received for a delay in the delivery of dissertations after the days appointed in the fourth section of the fourth statute.

NOTE.—The lectures for medical students on the various branches mentioned in the statutes, are delivered at the Massachusetts Medical College in Boston and commence annually on the third Wednesday in November. They continue three months. During the lectures, the students may find in the town various opportunities for practical instruction.

The Hollis Professor of natural philosophy will admit medical students to attend the lectures on natural and experimental philosophy. The lectures are delivered in the Philosophy Hall at Cambridge, four days in the week, between the middle of March and the middle of July annually. In order to their admission, such students must produce, to the Professor above mentioned, a certificate of their matriculation from the Dean of the faculty of medicine, and another certificate from the Steward of the University that they have paid him seven dollars for the Treasurer. Other persons may be admitted to the same lectures, with the approbation of the President, and producing a certificate from the Steward that they have paid ten dollars. Application to be made in writing to the College Registrar.

The fee for the degree of Doctor of medicine is to be paid to the College Treasurer. The fee is twenty dollars for a person who has not taken a degree of Bachelor of Arts at any college or University; fifteen dollars for one who has taken the degree of Bachelor; and ten dollars for one who has taken the degree of Master of Arts.

MEDICAL GRADUATES IN HARVARD UNIVERSITY—1822.

John O. Green, A. M.—*On Amaurosis*.

Henry Prentiss, A. M.—*On Delirium Tremens*.

Samuel Webber, A. M.—*On the Vis Medicatrix*.

Simeon Whitney A. M.—*On the Hip Disease*.

Orville Brooks—*On Tetanus.*

George Choate, A. M.—*On Dropsy.*

Anson Hooker A. M.—*On Bowel Complaints.*

Winslow Lewis, jr. A. M.—*On the Mucous Membrane.*

Samuel Mulliken, A. M.—*On Insania.*

Freedom Seaver—*On Life.*

William Whittemore—*On Cynanche Trachealis.*

Sylvanus Plympton, jr. A. M.—*On the Pancreas.*

MEDICAL LECTURES.

The Medical Lectures in Harvard University will begin at the Massachusetts Medical College in Boston, on the third Wednesday in November.

NOTICES, &c.

[To the Conductors of the New England Journal, of Medicine and Surgery.]

GENTLEMEN,

"THE following Essay was written at the time it bears date, with the exception of some trifling alterations. But owing to a case not necessary to mention, I have hitherto been prevented from sending it to you for publication."

'E NORTH.'

New London, (Conn.) 17th Dec. 1821. New Eng. Journal, &c. April, 1822.

"The ensuing article (Dr. North's Essay) was originally published in the form of a small pamphlet. But as the edition was small, we are requested by the author to give it a place in this Journal, to secure to it a more diffuse circulation. We are happy on this occasion to meet the wishes of so valuable a correspondent, and the more so, as we believe the article has been seen by very few of our readers."

Philadelphia Journal Med. and Phys. Sciences, No. 8. August, 1822. EDITOR.

We have extracted the above paragraphs to correct an error into which the Editor of the Philadelphia Journal has been led respecting the original publication of Dr. North's Essay. It was first published in the New England Journal, accompanied by a cut which gives two views of the instrument recommended by Dr. North in his Essay. The pamphlet form mentioned in the paragraph last quoted, was probably a dozen impressions of the Essay which were struck off at the request of Dr. North, as the Journal was going through the press, and expressly for his private use.

Ed. New Eng. Journal of Med. and Surgery.

Dr. Hazeltine's communication has been received, and is unavoidably deferred to the next number.

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